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Health Statistics Quarterly

NOT TO BE TAKEN AWAY

- Alcohol-related deaths by occupation, England and Wales, 2001–05
- Introducing new data on gestation-specific infant mortality among babies born in 2005 in England and Wales
- Review of methods for estimating life expectancy by social class using the ONS Longitudinal Study
- Report: Death registrations in England and Wales, 2006: area of residence
- Annual Updates: Mortality statistics 2005: injury and poisoning
  Cancer incidence and mortality in the United Kingdom and constituent countries, 2002–04

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Autumn 2007

No 35

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Health Statistics Quarterly

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About the Office for National Statistics

The Office for National Statistics (ONS) is the Government Agency responsible for compiling, analysing and disseminating many of the United Kingdom's economic, social and demographic statistics, including the retail prices index, trade figures and labour market data, as well as the periodic census of the population and health statistics. It is also the agency that administers the statutory registration of births, marriages and deaths in England and Wales. The Director of ONS is also the National Statistician and the Registrar General for England and Wales.

A National Statistics publication

National Statistics are produced to high professional standards set out in the National Statistics Code of Practice. They undergo regular quality assurance reviews to ensure that they meet customer needs. They are produced free from any political influence.

About Health Statistics Quarterly and Population Trends

Health Statistics Quarterly and *Population Trends* are journals of the Office for National Statistics. Each is published four times a year in February, May, August and November and March, June, September and December, respectively. In addition to bringing together articles on a wide range of population and health topics, *Health Statistics Quarterly* and *Population Trends* contain regular series of tables on a wide range of subjects for which ONS is responsible, including the most recently available statistics.

Subscription

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Online

Health Statistics Quarterly and *Population Trends* can be viewed or downloaded as Adobe Acrobat PDF files from the National Statistics website www.statistics.gov.uk/products/p6725.asp *(Health Statistics Quarterly) or* www.statistics.gov.uk/products/p6303.asp *(Population Trends)*.

Contributions

Articles: 5,000 words max.

Dates for submissions

Title \ Issue	Spring	Summer	Autumn	Winter
Health Statistics Quarterly	by 11 Sept	by 11 Dec	by 22 Mar	by 21 June
Population Trends	by 23 Oct	by 2 Feb	by 4 May	by 26 July

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Conceptions: 01329 813758
E-mail: vsob@ons.gsi.gov.uk
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in brief

New health expectancies data for wards

The Office for National Statistics (ONS) published experimental statistics on healthy life expectancy and disability-free life expectancy at birth for 2001 Census wards in England and Wales on 23 August 2007. The two measures are based on combining together estimates of life expectancy at birth for wards (1999–2003, published previously as experimental statistics) with the 2001 Census responses to the 'general health' and 'limiting long-term' questions, respectively. This is a web only publication and the detailed statistics are available on the National Statistics website at: www.statistics.gov.uk/statbase/Product.asp?vlnk=14466

These figures are being released as experimental statistics as this is the first time that ONS has produced health expectancies for small areas. As part of the publication process, a user consultation has been launched to seek views on the methodology used, the quality and usefulness of the data. The details of how to respond to the consultation are available on the NS website at www.statistics.gov.uk/about/consultations/default.asp. The closing date for sending responses is 26 October 2007.

GHS pseudo-cohort dataset

The GHS Time Series Dataset (1972–2004) is now available to download from The Economic and Social Data Service.

The dataset was developed by ONS to analyse trends in social inequalities. Researchers have previously been able to access data for each individual year of the GHS but the GHS Time Series Dataset combines each annual round of data into one dataset. It contains 71 variables and 827,624 cases.

Topics covered in the dataset include household composition, socio-economic status, qualifications and education, economic activity, health consultations, chronic and debilitative illness, smoking behaviour and household and individual demographics. It will be a useful tool for those who want to analyse these topics over time or those who want to carry out pseudo-cohort analysis.

An example of the type of analysis that can be carried out is the article in the previous edition of *Health Statistics Quarterly* titled 'Socio-economic inequalities in smoking: an examination of generational trends in Great Britain'.

For more information and to download the data go to: www.esds.ac.uk/findingData/ghsTitles.asp

UK Household Longitudinal Study

A major new household panel study, the UK Household Longitudinal Study (UKHLS), has been commissioned by the Economic and Social Research Council. It will be led by the Institute for Social and Economic Research at the University of Essex in collaboration with colleagues from the University of Warwick and the Institute of Education. The study, to be based on a sample of at least 40,000 households, will be the largest of its type in the world. The UKHLS will be a general purpose panel covering a wide range of topics and it is proposed that it will be linked to a range of observational and administrative sources, and collect health indicators and biomarkers. It will include a significant ethnic minority boost in order to get representative samples of each of the major ethnic groups. The study is expected to enter the field from early 2009 and will incorporate the existing British Household Panel Survey sample.

A consultation group on 'health outcomes and health related behaviour' has been established and will continue to meet (virtually or in person) until November 2007. The amount of biomedical data that can be collected through UKHLS will depend on future funding decisions, but it could facilitate research into areas such as childhood and adolescent development, fertility and childbearing, lifestyle and well-being, ageing, and health inequalities. Two areas suggested for initial focus are body composition (extreme obesity or anorexia) and mental health and well-being (including problems such as depression). One of the other consultation groups is looking at 'illicit and

risky behaviour' and may recommend questions on substance abuse. A UKHLS 'Biomarker and Health Indicator' Advisory Committee is being established under the chairmanship of Professor Sir Michael Rutter.

Further information about the study and on how to get involved in the consultation groups can be found at: www.iser.essex.ac.uk/ukhls/

Effects of problems with birth and death registration systems on ONS statistical outputs

Problems have arisen during the introduction of the new electronic registration system Registration On line (RON) at local register offices in England and Wales. As a result, ONS has had to suspend some statistical and administrative outputs that rely on the completeness of records of births and deaths. These are the outputs based on events registered between March and early May 2007. The scheduled publication programme and the production of individual outputs will be resumed as soon as data of sufficient quality are available.

ONS recognises the impact of this action on the user community and apologises for the inconvenience caused.

Problems encountered in RON implementation

RON was implemented in most register offices on 26 March 2007. On 10 April, as a result of significant performance problems, the system was taken out of use. During these performance problems, and since 10 April, around half of registrars have been able to use the new system and the others have taken registrations from the public either on paper or using the previous electronic system, RSS. Not all these registrations have, as yet, been provided to ONS for the production of statistics.

There has been no interruption to the services provided by local register offices to the public.

Plans to resume outputs

From 8 May, almost all register offices have been submitting data electronically using either RON or RSS. Birth and death registrations held only on paper at register offices are currently being entered onto the RON system at ONS, or by the local registration service. We anticipate that this back-capture process will be complete by early autumn. Once all the records are available electronically, the statistical quality assurance processes can be completed. ONS will then be able to assess how soon it will be possible to resume producing the statistical and administrative outputs affected.

How this action affects figures in *Health Statistics Quarterly*

Reference tables

Data are not yet of sufficient quality to publish provisional figures for the March quarter 2007 for births, deaths or childhood mortality. In addition, provisional conception figures for the June quarter 2006 are not available, since these figures rely on records of births registered in local register offices between January and August 2007.

Reports

The report on 'Unexplained deaths in infancy, 2006' is not published in this edition as the data are not yet of sufficient quality. The timetable for the publication of this and other reports due in the winter edition is currently under review as part of the statistical quality assurance process.

Delay to final annual conception figures for 2005

Final annual conceptions figures for 2005 will not be published in this edition of *Health Statistics Quarterly* but will instead be published in the November 2007 edition. This is due to the late arrival at ONS of some stillbirth notifications.

ONS apologises for any inconvenience caused.

Infant and perinatal mortality, 2006: health areas, England and Wales

Unlike previous autumn publications of *Health Statistics Quarterly*, this edition does not contain a report on infant and perinatal mortality in England and Wales.

Delays in receiving some 2006 stillbirths data from registrars mean that ONS has not been able to produce the report in time for the print deadline of this publication. However, the report will be published on the National Statistics website on 23 August as a web supplement to Health Statistics Quarterly 35 at the following address:

www.statistics.gov.uk/statbase/Product.asp?vlnk=6725

In addition, the delay in receiving these data means that some of the tables in Health Statistics Quarterly 35 have not been updated for the December 2006 quarter. Specifically, this has affected some of the England and Wales figures in Tables 2.1, 2.2, 3.1, 3.2, 6.1 and 6.2; it does not affect the figures for Scotland or Northern Ireland. These tables will be updated and appear as a web supplement to this edition, available from the same link as above.

ONS apologises for any inconvenience caused.

Revision to live birth figures for England and Wales, 2006

On 7 June 2007, the first release of live births figures for England and Wales in 2006 gave the total number of live births as 669,531. Since that date, ONS has received a small number of late records that relate to live births occurring in 2006 and has revised the total number by around 70 live births.

The revised figures do not appear in the print version of this edition of Health Statistics Quarterly, but do appear in the web supplement report on 'Infant and perinatal mortality, 2006: health areas, England and Wales' and web supplement reference tables at the following address:-

www.statistics.gov.uk/statbase/Product.asp?vlnk=6725

All figures for Scotland and Northern Ireland are unaffected by this revision.

ONS apologises for any inconvenience caused.

'Recent publications' are listed on page 84

Health indicators

England and Wales

Figure A Population change (mid-year to mid-year)

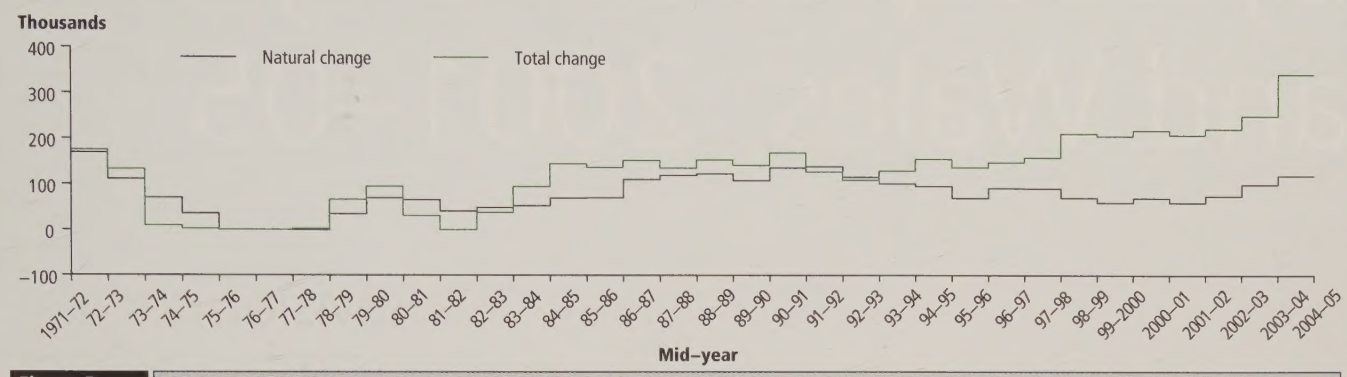


Figure B Age-standardised mortality rate[1]

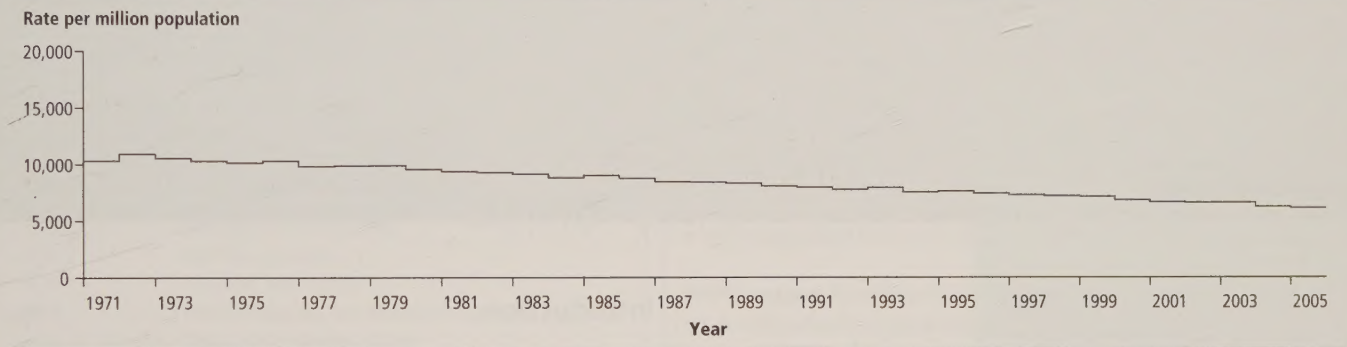


Figure C Infant mortality (under 1 year)

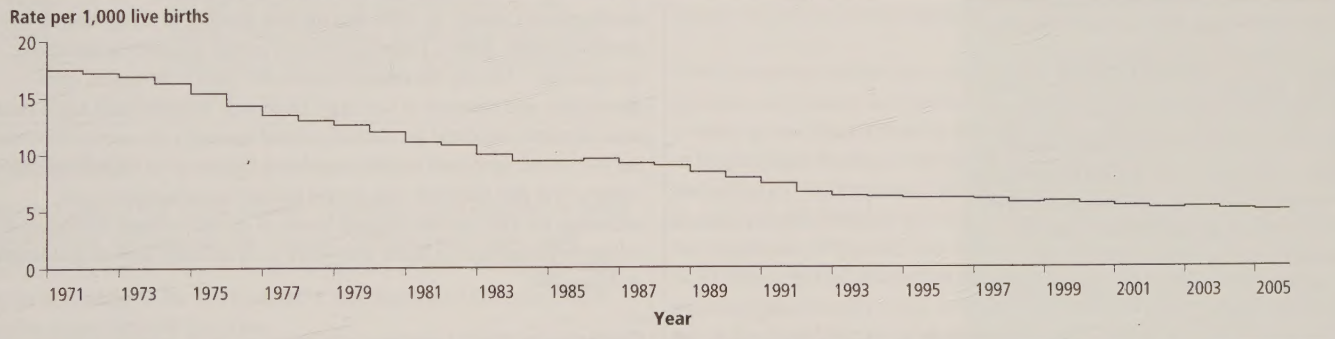
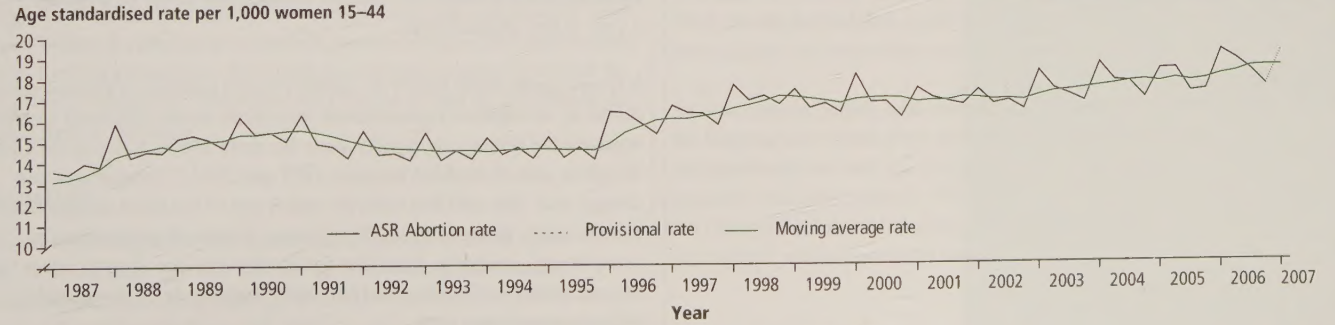


Figure D Age-standardised quarterly abortion rates – residents[2]



[1] The age-standardised mortality rate for 2004 is based on mid 2004 population estimates published on 25 August 2005.

[2] Rates for 2006 and March quarter 2007 are based on 2004 projected projections.

Alcohol-related deaths by occupation, England and Wales, 2001–05

Ester Romeri, Allan Baker and Clare Griffiths

Office for National Statistics

This article continues a long tradition of examining alcohol-related deaths by occupation in England and Wales. Results are presented for men and women which show those occupations with the highest and lowest indicators of alcohol-related mortality in 2001–05. For both sexes, many of the occupations with the highest alcohol-related mortality were found among those working in the drinks industry, including publicans and bar staff. Low indicators of alcohol-related deaths were found for men who worked as farmers and drivers, and women who worked with children.

Introduction

Alcohol-related mortality for different occupations in England and Wales has long been monitored by the Office for National Statistics (ONS) and its predecessor organisations. The Decennial Supplement published by the Registrar General in 1895 was the first attempt to comprehensively assess mortality from a range of selected causes for men in particular occupations.[1] Among the causes considered were both deaths from alcoholism and diseases of the liver. Decennial Supplements since then have regularly reported on alcohol-related mortality by occupation, and the last on occupational health considered deaths up to 1990.[2] Examining reports over this hundred year period reveals some consistencies, including the fact that the highest levels of alcohol-related mortality are routinely found among those who work with alcohol, such as publicans and bar staff.

Concern over alcohol misuse is not restricted to its impact on health and its effect on society through crime and anti-social behaviour. It has been estimated that up to 17 million working days are lost each year through alcohol-related absence and alcohol misuse costs some £6.4 billion a year in lost productivity.[3]

It is now particularly timely to consider recent patterns of alcohol-related deaths by occupation because death rates from causes related to alcohol misuse have been rising rapidly since the early 1990s. Rates in the United Kingdom almost doubled between 1991 and 2005.[4] Occupations also change over time and this analysis makes use of the latest occupational classification, as used in the 2001 Census. Counts of populations in occupational categories from that census also provide denominators for the calculation of Standardised Mortality Ratios, one of the mortality indicators presented here.

This article continues the tradition of monitoring alcohol-related mortality by occupation in England and Wales and identifies those occupations with the highest and lowest indicators of alcohol-related mortality in the period 2001–05.

Methods

Definition of alcohol-related deaths

The National Statistics definition of alcohol-related deaths only includes those causes regarded as being most directly due to alcohol consumption (Box one). It does not include other diseases where alcohol has been shown to make some contribution to increased risk, such as cancers of the mouth, oesophagus and liver. Apart from deaths due to poisoning with alcohol (accidental, intentional or undetermined), the definition excludes any other external causes of deaths, such as road traffic deaths, and other accidents and violence. This definition allows for consistent comparisons over time for those deaths most clearly associated with alcohol consumption.

Box one

National Statistics definition of alcohol-related deaths

International Classification of Diseases, Tenth Revision

F10	Mental and behavioural disorders due to use of alcohol
G31.2	Degeneration of nervous system due to alcohol
G62.1	Alcoholic polyneuropathy
I42.6	Alcoholic cardiomyopathy
K29.2	Alcoholic gastritis
K70	Alcoholic liver disease
K73	Chronic hepatitis, not elsewhere classified
K74	Fibrosis and cirrhosis of liver (Excluding K74.3-K74.5 – Biliary cirrhosis)
K86.0	Alcohol induced chronic pancreatitis
X45	Accidental poisoning by and exposure to alcohol
X65	Intentional self-poisoning by and exposure to alcohol
Y15	Poisoning by and exposure to alcohol, undetermined intent

Mortality data

Deaths in England and Wales with an underlying cause regarded as being alcohol-related, according to the National Statistics definition, were extracted from annual files of deaths registered in 2001–05. Deaths were selected according to the International Classification of Diseases, Tenth Revision codes listed in Box One.

Information on occupation was also extracted from the mortality datafiles. At death registration the registrar is asked to enter the occupation of the deceased in all cases where he or she was aged 16 years or over. Where the deceased was retired, unemployed, or had been unable to work through ill health or disability, the registrar is asked to record the last full-time occupation. If the deceased had never had an occupation the relevant field is left blank.

Occupation

ONS codes all occupations for deaths where the deceased was aged under 75. From 2001 onwards this has been done using the Standard Occupational Classification 2000 (SOC2000).[5] This classifies jobs in terms of their skill level and skill content. The structure of the classification is hierarchical with nine major groups: broad occupational categories which are designed to bring together similar occupations. Within this are 25 sub-major groups, 81 minor groups and 353 unit groups.

2001 Census data

Population counts for occupations were obtained from information collected at the 2001 Census. Questions on occupation in the census were asked of all those aged 16 to 74. Respondents were asked for the full title of the main job they were doing in the week prior to the census, or their last main job if they did not work in the previous week.[6] Answers to the occupation questions were used to code people using SOC2000. Everyone aged 16–74 who was working in the week before the census was given a SOC2000 code, as were those aged 16–64 who were not working in the week before the census but who last worked in 1996 or later.

Mortality analyses

Standardised Mortality Ratios (SMRs) were calculated using mortality data from 2001–05 and population counts from the 2001 Census. Earlier studies of occupational mortality have however noted the bias that can occur because of discrepancies in occupations recorded at death and in the census.[7] To try and limit the extent of this bias, analysis was restricted to those aged 20–64. As there remains a risk of numerator/denominator discrepancies with SMRs, a second mortality indicator was also calculated which was not dependent on information on the population at risk for each occupation. Proportional Mortality Ratios (PMRs) were selected as they do not require population denominators and have often been used for occupational mortality analyses.

For both indicators, deaths were only included for analysis if they had a valid SOC2000 code. These are only used to code those in paid employment, therefore students and other groups such as voluntary workers and carers were excluded.

PMRs compare the proportion of all deaths in a particular occupation that are alcohol-related, to the proportion in England and Wales. Expected values are calculated by applying the proportion of alcohol-related deaths in England and Wales to the number of deaths from all causes in each occupation group. These expected values are then compared to the actual number of alcohol-related deaths in each occupation.

PMRs therefore indicate how much more, or less, likely a death in a particular occupation is to be from an alcohol-related cause, as opposed to other causes, than a death to someone of the same age group and sex in England and Wales as a whole. Both PMRs and SMRs are normally multiplied by 100 for presentational purposes. If the proportion of alcohol-related deaths in an occupation was the same as the proportion in the population of England and Wales, the PMR would equal 100. A PMR of 50 means that an occupation has only half the expected proportion of alcohol-related deaths, while a PMR of 200 indicates that an occupation has twice the proportion of alcohol-related deaths than would be expected from the national population. The proportion of deaths which are alcohol-related may however be affected by the relative frequency of other causes of death. If mortality from all causes in a given occupation is low, a high PMR for alcohol-related deaths may be found, even if death rates from these causes are lower than rates in England and Wales.

To calculate the SMRs, age-specific alcohol-related mortality rates for England and Wales were applied to population counts for each occupation, by sex and age group, to produce the number of deaths expected from these causes. The SMR is then the ratio between the observed number of alcohol-related deaths in 2001–05 in each occupation, and the expected number.

SMRs indicate if the observed alcohol-related deaths in a specific occupation are lower (<100) or higher (>100) than the expected alcohol-related deaths in that occupation. This allows us to compare the level of alcohol-related mortality with the general population of England and Wales (SMR = 100). Results were calculated for men and women separately using national sex-specific mortality rates. This means that results cannot be directly compared between the sexes. They may, for example, indicate that in a particular occupation both sexes had a level of alcohol-related mortality higher than for England and Wales as a whole, but they cannot be used to make inferences on whether, within that occupation, alcohol-related mortality was higher for men or women.

As the SMRs were calculated with mortality data for the five-year period 2001–05, census population counts were multiplied by five to give an equivalent population at risk. Mortality rates for England and Wales were similarly based on mortality data for 2001–05 and mid-year estimates for 2001 multiplied by five.

Results presented

Table 1 includes the PMR, SMR and number of alcohol-related deaths for each of the nine SOC2000 major groups, for men and women. Confidence intervals (at the 95 per cent level) are presented for both PMRs and SMRs to help ascertain whether differences between ratios are statistically significant. Where lower confidence limits are greater than 100 this indicates that a PMR or SMR is significantly higher than for England and Wales. Conversely, where upper confidence limits are lower than 100 this indicates results which are significantly lower than for England and Wales. A confidence interval which includes 100 indicates a result which may not differ significantly from the population as a whole.

The confidence intervals were also used to rank results presented in Tables 2 and 3 for SOC2000 unit groups. Rather than present figures for all 353 of these categories, results were sorted to take into account statistical variability. To establish the occupations with the highest alcohol-related mortality, occupations were sorted by the lower confidence limits of their PMRs. Results are only presented in Table 2 for those occupations where the PMR was significantly higher than for England and Wales (>100).

For Table 3 this was reversed and results are only included where PMRs were significantly lower than for England and Wales (<100). In Tables 2 and 3 the occupations with PMRs most significantly different from England and Wales are therefore presented at the top. To minimise the risk of chance findings, occupations are also included in Tables 2 and 3 only if there were more than ten alcohol-related deaths in 2001–05.

Results

There were almost 23,000 alcohol-related deaths of people aged 20–64 in England and Wales in 2001–05. There were more than twice as many deaths among men as among women (15,436 and 7,477 respectively). For men, 16 per cent of these deaths did not have an occupation recorded at death registration but for women this figure was 51 per cent. Over half the female deaths were therefore excluded from our analyses of occupational groups which were based on 13,011 and 3,655 deaths for men and women respectively. Rates and proportions for England and Wales, used in the calculation of the SMRs and PMRs, were however based on all alcohol-related deaths for those aged 20–64.

Table 1 shows the PMRs, their corresponding SMRs and the number of alcohol-related deaths for the nine major occupation categories. For men, the highest PMR was for those working in occupations classified as 'Elementary' (109). The only other occupation group where the PMR was significantly higher than the male population as a whole was for those in 'Skilled Trade Occupations' (105). These two categories also had the highest SMRs: 132 for 'Elementary' and 128 for 'Skilled Trade Occupations'. 'Personal Service Occupations' was the only other category where the SMR was significantly higher than for England and Wales (109). The lowest SMRs were for men working as 'Managers and Senior Officials' and in 'Professional Occupations' (47 and 49 respectively).

For women aged 20–64, only those working in 'Skilled Trades Occupations' had a PMR greater than 100 (116). This was also the only category with an SMR higher than 100 (101). This result however, unlike the PMR, was not significantly higher than for England and Wales. These results indicate that women who had an occupation recorded at death registration had lower alcohol-related mortality than for women as a whole in England and Wales.

Table 1 **Alcohol-related deaths: Proportional and Standardised Mortality Ratios, by major occupation groups, 2001–05**

England and Wales

SOC2000 code	Major occupation group	PMR	Lower 95 per cent confidence limit	Upper 95 per cent confidence limit	SMR	Lower 95 per cent confidence limit	Upper 95 per cent confidence limit	Number of alcohol-related deaths
Men aged 20–64								
1	Managers and Senior Officials	83	79	88	47	45	50	1,410
2	Professional Occupations	88	82	94	49	48	52	870
3	Associate Professional and Technical Occupations	103	98	109	76	75	80	1,333
4	Administrative and Secretarial Occupations	96	88	104	72	70	78	540
5	Skilled Trades Occupations	105	102	109	128	127	132	3,798
6	Personal Service Occupations	105	94	116	109	105	121	358
7	Sales and Customer Service Occupations	98	86	112	64	60	73	227
8	Process, Plant and Machine Operatives	83	79	87	88	85	92	2,098
9	Elementary Occupations	109	105	114	132	127	138	2,377
Women aged 20–64								
1	Managers and Senior Officials	79	71	88	47	45	53	340
2	Professional Occupations	62	55	70	38	36	43	250
3	Associate Professional and Technical Occupations	81	74	89	57	55	62	447
4	Administrative and Secretarial Occupations	81	75	87	51	50	55	820
5	Skilled Trades Occupations	116	101	133	101	94	115	208
6	Personal Service Occupations	87	80	95	65	64	71	553
7	Sales and Customer Service Occupations	80	71	90	38	36	43	286
8	Process, Plant and Machine Operatives	83	72	95	67	62	77	200
9	Elementary Occupations	97	89	105	54	53	59	551

Table 2 shows the unit level occupations with the highest indicators of alcohol-related mortality. Ordered by the lower confidence limits of their PMRs, male bar staff, and publicans and managers of licensed premises ranked highest. Men in these occupations, along with seafarers, had PMRs which indicated that they had twice the proportion of alcohol-related deaths that would be expected for men in England and Wales as a whole.

The first digit of the SOC2000 code indicates which of the major occupation groups the unit occupations are categorised in. Of the 20 occupations which met the criteria for presentation in Table 2, there were none in 'Professional Occupations' but two in the 'Managers and Senior Officials' category: publicans, and hotel and accommodation managers. Six occupations were in 'Skilled Trades Occupations' and five in 'Elementary Occupations'.

The results for male SMRs were rather different to the PMRs. The two occupations with the highest results were coal mine operatives and seafarers with SMRs of 852 and 798 respectively, indicating levels of alcohol-related mortality eight times higher than in the general male population. Bar staff had the next highest SMR (401). Three occupations which had PMRs that were significantly higher than for England and Wales, had SMRs which were not significantly higher: sales representatives, elementary security occupations, and hotel and accommodation managers.

For women, only seven occupations had PMRs which were significantly higher than 100 and based on at least ten deaths in 2001–05. As for men, bar staff and publicans were also the occupations for women which had the highest ranking PMRs. A further two of the seven occupations were also in the catering industry: waiters/waitresses and chefs/cooks. These two occupations however had SMRs which were not significantly higher than in England and Wales as a whole. The highest SMR was for publicans (228) and three further occupations also had SMRs which were significantly higher than England and Wales: actors/entertainers (202), hairdressers (182), and bar staff (152). Although women working in elementary office occupations had one of the highest PMRs (192), the SMR for this category (47) was actually significantly lower than for England and Wales.

The occupations with the lowest indicators of alcohol-related mortality are reported in Table 3. For men, there were 26 occupational units which had at least ten deaths in 2001–05 and a PMR significantly lower than for England and Wales (upper confidence limit <100). The lowest PMR was for farmers (39) indicating that the proportion of male deaths from alcohol-related causes was less than two-fifths of what would be expected for men in England and Wales as a whole.

Of the 26 occupations with the lowest PMRs, nine were in the major category of 'Managers and Senior Officials'. Seven were classed as 'Process, Plant and Machine Operatives', with most of these being jobs which involve driving including driving instructors and drivers of heavy goods vehicles, vans, buses/coaches and taxis.

Of the 26 occupations with the lowest PMRs, 24 also had SMRs which were significantly lower than for England and Wales as a whole. Security guards and gardeners both had SMRs which were higher than 100 (102 and 106 respectively) but the confidence intervals for these results included 100.

Table 2 **Occupations with highest alcohol-related mortality, 2001–05**

England and Wales

SOC2000 code	Occupation unit	PMR	Lower 95 per cent confidence limit	Upper 95 per cent confidence limit	SMR	Lower 95 per cent confidence limit	Upper 95 per cent confidence limit	Number of alcohol-related deaths
Men aged 20–64								
9225	Bar staff	223	180	274	401	323	491	92
1224	Publicans and managers of licensed premises	202	179	228	297	263	335	275
8217	Seafarers (merchant navy); barge, lighter and boat operatives	216	174	265	798	642	981	90
5431	Butchers, meat cutters	162	132	196	287	234	347	106
9121	Labourers in building and woodworking trades	136	126	146	352	327	379	736
3415	Musicians	156	122	196	361	283	455	72
5322	Floorers and wall tilers	159	121	204	177	135	227	61
5434	Chefs, cooks	138	121	156	226	198	257	242
4111	Civil Service executive officers	189	115	291	164	100	253	20
6221	Hairdressers, barbers	155	114	206	200	147	265	48
3311	NCOs and other ranks	136	111	164	376	308	455	109
3542	Sales representatives	128	109	148	103	88	119	179
5312	Bricklayers, masons	129	109	152	159	134	187	148
9249	Elementary security occupations n.e.c.	167	109	245	140	91	205	26
9231	Window cleaners	140	107	180	235	179	302	60
1221	Hotel and accommodation managers	146	106	196	108	79	145	44
5491	Glass and ceramics makers, decorators and finishers	151	103	215	170	115	241	31
5323	Painters and decorators	114	101	127	171	153	192	308
8122	Coal mine operatives	121	101	144	852	710	1014	128
9223	Kitchen and catering assistants	132	101	177	135	103	181	59
Women aged 20–64								
9225	Bar staff	203	155	273	152	116	204	59
1224	Publicans and managers of licensed premises	193	152	242	228	179	286	75
6221	Hairdressers, barbers	146	116	180	182	145	225	85
9219	Elementary office occupations n.e.c.	192	112	308	47	28	76	17
9224	Waiters, waitresses	159	109	223	121	84	170	33
5434	Chefs, cooks	124	102	151	119	97	144	106
3413	Actors, entertainers	185	101	310	202	110	338	14

Table 3 Occupations with lowest alcohol-related mortality, 2001–05

England and Wales

SOC2000 code	Occupation unit	PMR	Lower 95 per cent confidence limit	Upper 95 per cent confidence limit	SMR	Lower 95 per cent confidence limit	Upper 95 per cent confidence limit	Number of alcohol-related deaths
Men aged 20–64								
5111	Farmers	39	27	54	27	19	38	33
8211	Heavy goods vehicle drivers	58	51	65	67	59	76	247
1136	Information and communication technology managers	49	34	69	22	15	31	33
1121	Production, works and maintenance managers	62	52	74	25	21	30	123
1122	Managers in construction	54	38	74	21	15	29	39
8214	Taxi, cab drivers and chauffeurs	62	51	74	69	57	83	121
1239	Managers and proprietors in other services n.e.c.	66	54	80	61	50	74	109
8212	Van drivers	69	59	80	54	46	63	169
8213	Bus and coach drivers	68	55	83	70	57	86	92
2211	Medical practitioners	58	37	85	27	18	40	25
8133	Routine inspectors and testers	60	41	85	39	27	56	31
1132	Marketing and sales managers	72	59	87	37	30	45	102
1162	Storage and warehouse managers	61	42	87	57	39	80	32
3119	Science and engineering technicians n.e.c.	63	44	88	25	17	35	34
2444	Clergy	50	25	89	25	13	45	11
8215	Driving instructors	53	29	89	48	26	80	14
9134	Packers, bottlers, canners, fillers	59	37	89	39	25	59	22
8229	Mobile machine drivers and operatives n.e.c.	64	44	90	55	38	77	33
3563	Vocational and industrial trainers and instructors	57	32	94	27	15	44	15
1151	Financial institution managers	70	50	96	27	19	37	38
1163	Retail and wholesale managers	76	58	96	21	16	26	65
1161	Transport and distribution managers	74	55	97	64	47	84	51
9241	Security guards and related occupations	84	72	97	102	87	118	183
3314	Prison service officers (below principal officer)	61	36	98	50	29	81	17
5223	Metal working production and maintenance fitters	87	77	98	76	67	86	265
5113	Gardeners and groundsmen/groundswomen	84	71	99	106	89	125	144
Women aged 20–64								
6124	Educational assistants	35	21	56	14	8	22	18
9244	School mid-day assistants	40	22	66	18	10	30	14
2315	Primary and nursery education teaching professionals	64	52	77	58	47	70	107
1239	Managers and proprietors in other services n.e.c.	52	31	82	46	28	73	18
4150	General office assistants/clerks	71	59	83	39	33	46	139
6111	Nursing auxiliaries and assistants	63	44	86	46	32	63	37
6121	Nursery nurses	52	29	86	30	17	50	15
6122	Childminders and related occupations	51	27	87	35	18	59	13
1163	Retail and wholesale managers	60	39	88	27	18	40	26
4122	Accounts and wages clerks, book-keepers, other financial clerks	78	63	95	49	39	59	100
7111	Sales and retail assistants	84	73	96	42	36	48	214
1152	Office managers	67	44	97	39	26	57	27
4113	Local government clerical officers and assistants	69	47	97	101	69	142	33
4123	Counter clerks	73	52	99	39	28	54	40

For women, 14 occupational categories are included in Table 3. The lowest PMR was for educational assistants (35) and several other jobs which also involve education and working with children similarly had low proportions of alcohol-related deaths, including school mid-day assistants, primary and nursery education teachers, nursery nurses and childminders. All of the occupations with the lowest PMRs also had SMRs which were significantly lower than for England and Wales except for local government clerical officers and assistants. Their SMR was 101 but with confidence limits which ranged from 69 to 142.

Discussion

There is a long tradition of ONS monitoring alcohol-related deaths by occupation and the findings that we have presented here are, in many ways, consistent with previous reports, particularly that the highest levels of alcohol-related mortality are found among workers in the drinks industry. Of the 353 occupations analysed in 2001–05, bar staff and publicans had the highest PMRs for both sexes. Other occupations in the catering industry also had high indicators of alcohol-related mortality, including chefs/cooks, waiters/waitresses, and kitchen and catering assistants.

The first analysis by the Registrar General to examine male mortality by occupation and selected causes of deaths, reported on men dying in 1890–92.[1] That report found levels of mortality from alcoholism among innkeepers and their servants which were seven times higher than for England and Wales as a whole. Deaths from diseases of the liver were over six times higher than that expected for the general population. Other parallels are also present with our recent results, including the finding that all categories of farmers and farm workers had much lower levels of mortality from alcoholism and liver disease than the general population. This was still apparent over a century later when we found that farmers had the lowest male PMR.

Decennial Supplements in the Twentieth Century, which reported SMRs for men, confirmed that liver cirrhosis mortality for publicans and innkeepers was nearly eight times higher than for England and Wales as a whole in 1961[8] and by 1970–72 was nearly 16 times higher.[9] Other occupations which figured consistently in lists of the professions with the highest levels of male alcohol-related mortality include those in the catering industry, seafarers (including fishermen), writers and journalists, musicians and actors, medical practitioners and the armed forces. These were all occupations highlighted as having high proportions of alcohol-related mortality in the last Decennial Supplement on Occupational Health which reported on deaths between 1979–90.[2] That report also highlighted three occupational groups with high alcohol-related PMRs for women: publicans and bar staff, literary and artistic occupations, and hairdressers.

Similar findings to those in England and Wales have also been reported in other countries. Figures from the United States, for example, show that for alcohol-associated diseases in the 1980s, the highest PMRs among white men and women were for those working as bartenders and waitresses respectively.[10] In Sweden meanwhile, it has been reported that farmers have the lowest levels of alcohol-related deaths.[11]

Some of our findings however are not consistent with earlier reports. Male medical practitioners were among the occupations with the highest indicators of alcohol-related deaths in the 1960s, 1970s and 1980s. In 2001–05, however, they had a PMR of only 58 and an SMR of 27 (both results significantly lower than England and Wales). This change merits further comment as the behaviour of doctors has been taken as a marker of how harmful lifestyle behaviours are perceived in a country.[12] It is possible that the low SMR observed for male medical practitioners in 2001–05 is an artefact related to the use of population counts from the 2001 Census. The low PMR for this occupation suggests however that there has been a real change in alcohol-related mortality for male doctors. This may be similar to the situation with smoking where, once the hazards were recognised in Britain, doctors gave up smoking earlier than the general population. Suggested reasons for this include: doctors 'heard the message' more quickly; a contradiction developed between doctors' devotion to health and their smoking behaviour; smoking may also have become stigmatised in medical circles before it became so in the rest of society.[13]

Some of these factors may have led to reduced alcohol misuse among doctors and it has been suggested that there has been a cultural change towards drinking within the medical profession in recent years. Concern over alcohol (and other drug) misuse by doctors was, for example, reflected in a report by the Medical Council on Alcoholism in 1998,[14] and confidential reporting systems are also in place for doctors who are concerned about colleagues abusing alcohol or drugs and who may endanger their patients. Trends in alcohol consumption within the medical profession are not readily available, although figures from the General Household Survey for 1988 and 1990 indicated that the proportion of male doctors drinking at levels which exceeded weekly recommended units of alcohol was lower than the population as a whole.[2] When considering changes in alcohol-related mortality in the medical profession it should also be noted that the ethnic mix of doctors does not now reflect that of the general working population. In 2001 only 70 per cent of doctors were white, compared to 93 per cent of people working in all industries. In the 2001 Census, 21 per cent of doctors classified their ethnic group as Asian.[15]

In contrast to male medical practitioners, coal mine operatives, who had the highest SMR for men in 2001–05 (852), were not identified as an occupation with high indicators of alcohol-related mortality in either the 1970s or 1980s. In 1961 face workers in coal mines had an SMR of 142 for male liver cirrhosis mortality but other underground workers in coal mines had an SMR of only 80.[8] Our recent results may reflect that by 2001 fewer men were working in coalmines than in previous census years. The high SMR may indicate a higher risk of alcohol-related mortality among former mine workers but it may also be a consequence of numerator/denominator bias as fewer men may have recorded a coalmining occupation in the 2001 Census but still have been recorded as coalminers at death registration.

The reasons why some occupations may be particularly prone to raised alcohol-related mortality have been explored by research studies. Plant in the 1970s, for example, explored whether some occupations attracted people who were already problem drinkers or whether certain professions created problem drinkers through work pressures. By investigating recruitment to breweries in Edinburgh he concluded that the drinks industry attracted people likely to already have high levels of alcohol consumption. Plant also found evidence that within the drinks trade there was strong social pressure to consume the available alcohol.[16] Following a literature review he proposed eight factors which had emerged as suggested explanations of why some occupations had high rates of alcohol-related problems,[17] including availability of alcohol at work, social pressure to drink at work, separation from family or social relationships, freedom from supervision, very high or very low income levels, collusion by colleagues, stress (including danger, responsibility and job insecurity), and recruitment of people who are predisposed to drink heavily. Many of these risk factors can be associated with those occupations listed in Table 2 with the highest indicators of alcohol-related mortality.

Among men in our study, the lowest PMRs were found in farmers. Hawton *et al* have suggested that farmers would be unlikely to sustain their farming operations if they were heavy drinkers.[18] They concluded that the general demands of farming discourage alcohol misuse and are unlikely to attract those who are already heavy users of alcohol. For men, driving-related occupations also had some of the lowest indicators of alcohol-related deaths, which has also been reported earlier. The Decennial Supplement of 1961, for example, reported low SMRs from liver cirrhosis for driving-related occupations.[8] The risk of disqualification for drink driving may clearly act as a deterrent against alcohol misuse for professional drivers.

Although analyses of deaths by occupation have a long reporting tradition, there have always been a number of problems associated with their calculation and interpretation. Direct comparisons of alcohol-related mortality for particular occupations cannot be made across time from results presented in the Decennial Supplements. SMRs and PMRs do allow comparison with the population as a whole, but when interpreting figures for 2001–05 it should be remembered that alcohol-related mortality rates have been rising rapidly in recent years, thus raising the baseline for comparison. A further challenge has always been that compared to men, only a small percentage of women have an occupation recorded at death registration. For this reason analyses have often been restricted to men. Another limitation is the fact that populations for occupational groups are only routinely available every ten years following the census. Mortality indicators which require population denominators, such as SMRs, can therefore be produced only at wide intervals. PMRs do not require population data, however, like SMRs, they have their own limitations.

As noted in the Methods section, SMRs by occupation are calculated using data collected at death registration and information collected at the decennial population census. A potential numerator/denominator bias can occur in using these ratios because of differences between occupations recorded at death and at census. We attempted to limit this bias by restricting analysis to deaths between ages 20–64, however to achieve reasonably robust results we also aggregated five years of mortality data. The latter may increase the risk of bias as it entails using population counts from 2001 with deaths registered up to 2005. (Mortality data could not be used either side of 2001 as SOC2000 was only introduced for coding deaths in that year.)

PMRs can avoid this problem of bias as a population count is not needed for their calculation. Both the numerator and denominator are derived only from death registrations, with the numerator being alcohol-related deaths and the denominator all deaths. PMRs, however, need to be interpreted with caution because, unlike SMRs, a high PMR does not imply higher excess mortality. The PMRs presented here only indicate an excess proportion of alcohol-related deaths. As noted earlier, the proportion of deaths which are alcohol-related may be affected by the relative frequency of other causes of death. If mortality from all causes in a given occupation is low, a high PMR for alcohol-related deaths may be found even if death rates from these causes are lower than rates in England and Wales. For example, in the results presented in Table 2, women in elementary office occupations had a PMR of 192 but an SMR of only 47. Their high PMR may therefore represent a deficit of deaths from other causes, as their level of alcohol-related mortality is actually lower than for women in England and Wales as a whole.

A further limitation when considering alcohol-related deaths by occupation is the risk that people who misuse alcohol may be less likely to be in employment, therefore leading to a high proportion of alcohol-related deaths being excluded from analysis. Our results indicate that a higher proportion of deaths from alcohol-related causes did not have an occupation recorded at death registration, compared to the population as a whole. In 2001–05, 12 per cent of men aged 20–64 did not have an occupation recorded at death, compared to 16 per cent for deaths with an underlying cause classified as alcohol-related. For all women aged 20–64, there were 42 per cent without an occupation recorded at death, but for alcohol-related causes this figure was 51 per cent. The results presented for women in Table 1 suggest that having any occupation recorded at death indicates lower alcohol-related mortality. Only one of the nine major occupation groups had a PMR for women which was significantly higher than for England and Wales and none of the SMRs for women in these groups were significantly higher than for women as a whole. Employment thus appears to have a generally protective effect for women against alcohol-related mortality.

Despite the limitations and challenges which have long been reported when examining deaths by occupation, reports on alcohol-related deaths over more than a century have consistently identified similar occupations as being most at risk. By presenting both PMRs and SMRs in this article we have allowed consistency between the two indicators to be examined. The findings largely reinforce earlier research regarding those occupations with the highest indicators of alcohol-related mortality. In particular, it is very clear that those with access to alcohol at work are more likely to die from alcohol-related causes, compared to the population as a whole.

Key findings

- In England and Wales in 2001–05, the occupations with the highest proportions of alcohol-related deaths for men were bar staff, publicans and seafarers. Bar staff and publicans were also the occupations with the highest proportions of alcohol-related deaths for women.
- Compared to the population as a whole, levels of alcohol-related mortality (as measured by SMRs) were highest among men who worked as coal mine operatives and seafarers. The highest SMRs for women were for publicans and actors/entertainers.
- Other occupations within the drinks, catering, entertainment and hospitality industries had high indicators of alcohol-related mortality.
- Low indicators of alcohol-related deaths were found for men who worked as farmers and drivers, and women who worked with children.
- Employment appears to have a protective effect for women against alcohol-related mortality.

One of the key aims of the government's alcohol harm reduction strategy is to work in partnership with the drinks industry.[3] The strategy notes that the industry needs to be at the heart of preventing and tackling alcohol misuse and should play a greater role in disseminating messages which encourage responsible consumption. Our findings indicate that these messages need to be strongly directed at workers within the drinks industry, as well as to their customers.

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Introducing new data on gestation-specific infant mortality among babies born in 2005 in England and Wales

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Gestational age is highly correlated with birth outcomes including birthweight and infant mortality. Since gestational age is not recorded at the registration of live births in England and Wales, it has not been possible to produce routine statistics on gestation-specific infant mortality rates. A new system, introduced in 2002, for allocating NHS numbers at birth (NN4B) provided the opportunity to obtain gestational age information. NN4B records have been linked with birth registration data for all births occurring in 2005, and further linked with registration records for deaths in the first year of life. Thus, for the first time, we produce gestation-specific infant mortality rates for England and Wales as a whole, including in relation to birthweight, multiplicity, age of mother, marital status/registration type, and the National Statistics Socio-Economic Classification.

Introduction

Babies born preterm, that is before 37 completed weeks of gestational age, are at particular risk of morbidity and mortality in the first year of life.[1, 2] It is well established from small scale studies and data from other countries[3, 4] that gestational age is highly correlated with birth outcomes including birthweight and infant mortality. However, information on the gestational age at birth is not routinely available for England and Wales since gestational age is not recorded at the registration of live births. As a result of this gap in the data it has not been possible to routinely monitor levels and trends in preterm birth and gestation-specific infant mortality rates.

In Wales it has been possible to derive national gestational age data by aggregating birth notification data from child health systems, and subsequently to use these data in deriving gestation-specific infant mortality statistics.[5, 6] It has not proved feasible to do this at the national level in England. Scotland derives gestational age data from SMR02 hospital data[7] and Northern Ireland from child health systems with the result that England has been the only country in the United Kingdom without such data. Consequently it has not been possible to include England in Peristat comparisons of gestational age data for member states of the European Union.[8]

The opportunity to obtain gestational age information was provided by the introduction in 2002 of a system for allocating NHS numbers at birth to babies in England, Wales and the Isle of Man. This new system, the NHS Numbers for Babies Service (NN4B), involves the notification of births, by electronic submission of a small set of data including gestational age at birth, to the Central Issuing System which issues NHS numbers.[9] The Office for National Statistics (ONS) has received daily

downloads of a subset of these NN4B data for all NHS numbers issued from 1 January 2005. Using these data, statistics on the distribution of live births in England and Wales by multiplicity and gestational age were released for the first time in May 2007.[10]

Since NN4B records include babies' NHS numbers it is possible to link them with other datasets containing NHS numbers. They have now been linked with birth registration data for all births that occurred in 2005 and in this article these linked NN4B-birth registration data have been further linked with registration records for deaths in the first year of life. This makes it possible to produce gestation-specific infant mortality rates for England and Wales as a whole. Thus, for the first time, we present provisional figures on infant mortality by gestational age, including in relation to birthweight, multiplicity, age of mother, marital status/registration type, and the National Statistics Socio-Economic Classification.

Methods

Source data used in this analysis

The data used in this analysis are routine birth and death registration records, and NHS Numbers for Babies Service data.

Birth registration data

Birth registration data form the main routine source of birth information in England and Wales. They are considered complete as birth registration is a legal requirement and, moreover, a birth certificate is required in order to obtain child benefits. The data undergo extensive quality checks.[11, 12] For these reasons birth registration records form the central data used in this analysis. All birth registration records for babies born alive in England and Wales in 2005 were used. The extract of birth registration data, taken in August 2006, included 645,887 live births.

Death registration data

These data are considered complete as death registration is a legal requirement and a death certificate must be obtained before a dead child can be buried or cremated. These data undergo extensive checks on their quality.[12] Death registration records were extracted for all deaths under one year of age where the baby was born in 2005 and the death record could be linked to a birth registration record. This extract, taken in February 2007, included 3,200 deaths. A further 65 infant deaths to babies born in 2005 could not be linked to a birth registration record and were excluded from the analysis. This proportion of unlinked deaths is comparable to that found previously.[12, 13]

NHS Numbers for Babies Service (NN4B) data

The 645,014 NHS Numbers for Babies records for babies born in England and Wales from 1 January to 31 December 2005 inclusive, and which could be linked to a birth registration record, were included in this analysis. Earlier work has shown the quality and completeness of the NN4B dataset to be generally good.[14] This includes close agreement of the gestational age distribution with those from other UK datasets except that the NN4B data indicate a higher proportion of births with very low gestational ages than do the other datasets. The weight for gestational age distribution highlighted that less than 0.2 per cent of records had implausible combinations of birthweight and gestational age. These have a particular impact on very low birthweights and gestational ages. The fact that the NN4B data show that 23 per cent of live singletons born before 22 weeks had birthweights of 2,500g and over[10] strongly suggests errors in the recording of either gestational age or birthweight or both for these babies.

Linkage

The linkage required for this analysis was carried out in two stages. Firstly, NN4B records were linked with the 645,887 live birth registration records. Subsequently infant death registration records were linked with this combined birth registration-NN4B dataset. These two stages of linkage are described in detail below and shown in Figure 1. Approval for the use of these data sources for linkage and the production of statistical data was given by the North East London Ethics Committee. The Patient Information Advisory Group agreed to the granting of cover under Section 60 of the Health and Social Care Act 2001.

Stage 1: linkage of NN4B records to birth registration records

The linkage of NN4B records to birth registration records was performed using the methods developed for the pilot linkage of births in the first quarter of 2005, described in detail elsewhere.[15] The NHS number was the primary means of linkage, and 99.3 per cent of records linked using this identifier. The remainder linked using combinations of date of birth, birthweight, mother's date of birth, and postcode. Overall, 99.9 per cent of the 645,887 live birth registration records successfully linked with an NN4B record (Table 1). The remaining 873 birth registration records failed to link with an NN4B record. Validity testing of the linkage revealed inconsistencies that suggested that 97 apparent linkages, out of the total 645,014 linked NN4B-birth registration records, had mistakenly linked records for two different babies.

Figure 1 Stages of the linkage process

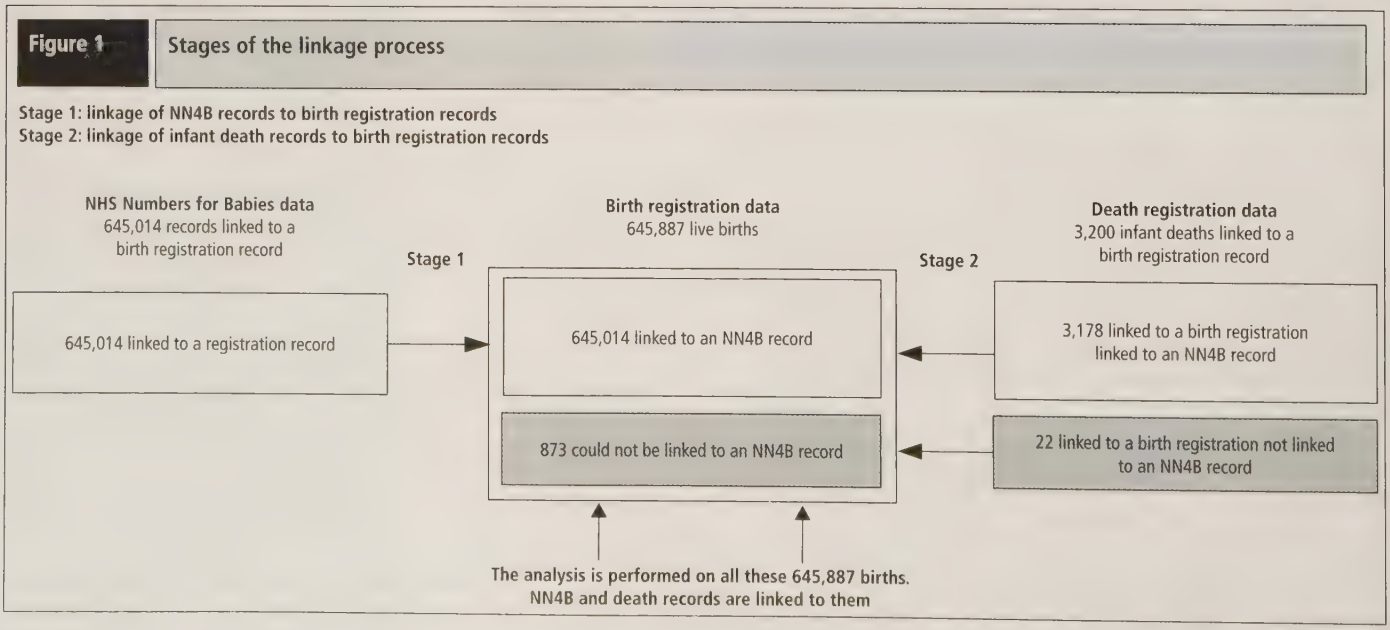

Stage 1: linkage of NN4B records to birth registration records
Stage 2: linkage of infant death records to birth registration records
NHS Numbers for Babies data
645,014 records linked to a birth registration record
Birth registration data
645,887 live births
Death registration data
3,200 infant deaths linked to a birth registration record
Stage 1
Stage 2
645,014 linked to a registration record
645,014 linked to an NN4B record
873 could not be linked to an NN4B record
3,178 linked to a birth registration linked to an NN4B record
22 linked to a birth registration not linked to an NN4B record
The analysis is performed on all these 645,887 births. NN4B and death records are linked to them

Table 1 Birth and death records used in the analysis

	Live births	Infant deaths
Birth registration record linked to an NN4B record	645,014	3,178
Birth registration record not linked to an NN4B record	873	22
Totals used in the analysis	**645,887**	**3,200**

Stage 2: linkage of infant death records to birth registration records
Deaths under the age of one year to babies born in 2005 were linked to a birth registration record using the variable that is added to a birth record by ONS to indicate a death. However, since the birth registration extract was taken in August 2006 infant deaths occurring after that date will not be indicated on the birth record. For these deaths, there was therefore the need to link using other variables; the NHS number, date of birth and sex of the baby were the variables used. Of the 3,200 infant deaths which were successfully linked to a birth registration record, 22 related to the 873 live birth registrations which could not be linked to an NN4B record (Table 1). In other words it was not possible to find an NN4B record for 0.69 per cent (22) of babies who died in the first year of life. A far smaller proportion of birth registration records, 0.14 per cent (873), could not be linked to an NN4B record.

Data quality issues affecting births recorded as occurring before 22 weeks gestational age

As mentioned above, under *NHS Numbers for Babies Service (NN4B) data*, there are data quality concerns regarding births recorded as occurring before 22 weeks gestational age. These include inconsistencies in the recording of gestational age and birthweight information. Over one-fifth of these births are recorded with a birthweight of 2,500g and over. This is clinically implausible as it would be expected that these very low gestation babies would have very low birthweights. Data from Canada[16] indicate that singleton births of 22 weeks gestational age have an upper limit for birthweight that is below 750 grams.

In order to investigate these data issues we have tabulated infant mortality by birthweight for babies born before 22 weeks of gestational age.

Table 2 shows that there is near universal mortality among babies recorded as being born before 22 weeks gestational age with birthweights below 1,000g. However babies of this gestational age with birthweights of 1,000g and over have much lower mortality rates. In particular those weighing 2,500g or over had an infant mortality rate of 46.2 deaths per 1,000 live births. It is known that survival is extremely unlikely among such early babies.[17] This strongly suggests that for births recorded as occurring before 22 weeks gestation with birthweights anything but very low, one data item or possibly both were wrongly recorded. For this reason, we have separated the births (and related deaths) of below 22 weeks gestational age into those with plausible birthweights (under 1,000g) and those with implausible birthweights (1,000g and over) for this gestational age. Throughout the article the latter group plus those with not stated birthweight are not included as under 22 weeks gestational age. For example, they are excluded from the numerator and denominator when calculating the percentage of births that are preterm, and also the infant mortality rate for preterm births.

Analysis

Firstly, we examine infant mortality by single weeks of gestational age at birth. This analysis is presented in Section A of the Results.

Numbers and rates are presented for gestation-specific mortality in the periods as shown in Box one.

Box one

Definitions used in infant mortality statistics

Early neonatal	Before seven days after live birth
Late neonatal	At least seven but under 28 days after live birth
Postneonatal	At least 28 but under one year after live birth
Infant	Under a year after live birth

Age at death in days is derived from dates of birth and death.

Mortality rates are presented as deaths per 1,000 live births.

Since gestational age is taken from the NN4B record, this information was unavailable for the 873 live births and the 22 related deaths where the birth registration record could not be linked to an NN4B record. This group is itemised separately throughout the analyses.

In Section B of the Results, we examine infant mortality by gestational age, and social/biological factors including birthweight, multiplicity, age of mother at the birth of child, marital status/registration type, and the National Statistics Socio-Economic Classification (NS-SEC) based on the father's occupation. With the exception of gestational age, information on each of these characteristics was taken from the registration record.

For each social/biological variable, we examined:

- the distribution of live births by that variable and gestational age group, presenting both numbers of births and percentages. The overall percentage born preterm (that is, under 37 weeks) is given. Data are also presented for births with low gestational age inconsistent with birthweight, births with gestational age not stated, and births not linked to an NN4B record
- neonatal, postneonatal and infant mortality by gestational age group and the variable in question, presenting both numbers of deaths and rates

Table 2 Infant mortality by birthweight among births before 22 weeks of gestational age

Births before 22 weeks gestational age	All	Birthweight (grams)				
		Under 1,000	1,000–1,499	1,500–2,499	2,500 and over	Not stated
Live births	312	212	8	15	65	12
Infant deaths[1]	236	209	4	8	3	12
Infant deaths per 1,000 live births	756.4	985.8	500.0	533.3	46.2	1000.0

1 All these deaths occurred in the early neonatal period.

More detailed tables will be available on the National Statistics website in early autumn 2007 (www.statistics.gov.uk/statbase/Product.asp?vlnk=6725).

In line with the World Health Organization definitions,[18] preterm birth is defined as before 37 completed weeks of gestation, term as 37–41 completed weeks and post term as 42 or more completed weeks.

All figures which give the percentage of births or deaths in a given gestational age range include only those with known gestational age in the denominator. The births (and related deaths) with gestational age under 22 weeks and implausibly high birthweight, or birthweight not stated, are not included as of known gestational age.

Results

A. Infant mortality by single weeks gestational age

There were 3,200 deaths in the first year of life among babies born in 2005 in England and Wales, giving an infant mortality rate of 5.0 deaths per 1,000 live births. Infant mortality by gestational age at birth and subdivided by age at death into mortality in the early neonatal, late neonatal, and postneonatal periods is shown in Table 3. Gestational age was known for 99.2 per cent of live births and 97.7 per cent of infant deaths. In addition to the 27 infant deaths with gross inconsistency between birthweight and gestational age under 22 weeks, there were 24 infant deaths with gestational age not stated on the NN4B record, and a further 22 where an NN4B record for the baby was not found.

Infant mortality was highest at the very low gestational ages, 986 deaths per 1,000 live births among babies born before 22 weeks, and 947 deaths per 1,000 live births at 22 weeks. It then decreases with gestational age to 1.3 deaths per 1,000 live births among babies born at 40 weeks gestational age. This is shown in Figure 2, and on a larger scale for gestational ages of 32 weeks and above in Figure 3. Although the overall infant mortality rate was 5.0 deaths per 1,000 live births, only term and post term births had mortality rates below this level. Despite an infant mortality rate of 1.8 deaths per 1,000 live births among babies born at term, 37 to 41 weeks, there remain within this group considerable differences in mortality by gestational age. Babies born at 37 weeks had an infant mortality rate of 4.1 per 1,000 live births that is over three times the infant mortality of babies born at 40 weeks. While 88 per cent of babies were born at term, a further 4 per cent were born post term, that is at 42 weeks and over. Infant mortality was slightly higher for babies born post term, 2.0 per 1,000 live births, than for those born at 39, 40 and 41 weeks.

The infant mortality rate among preterm births as a whole was 42 per 1,000 live births. For all gestational ages below 37 weeks the infant mortality rate exceeded the overall rate of 5.0 deaths per 1,000 live births. Below 37 weeks, infant mortality increased rapidly as gestational

Table 3 **Live births and infant deaths by gestational age at birth: babies born in 2005**

England and Wales

Gestational age (weeks)	Numbers					Rates per 1,000 live births			
	Births	Deaths							
	Live births	Early Neonatal	Late Neonatal	Postneonatal	Infant	Early Neonatal	Late Neonatal	Postneonatal	Infant
All	645,887	1,695	544	961	3,200	2.6	0.8	1.5	5.0
Under 22 weeks & birthweight under 1000g[1,3]	212	209	0	0	209	985.8	0.0	0.0	985.8
22 weeks	152	140	3	1	144	921.1	19.7	6.6	947.4
23	283	198	34	7	239	699.6	120.1	24.7	844.5
24	474	168	65	43	276	354.4	137.1	90.7	582.3
25	499	95	43	38	176	190.4	86.2	76.2	352.7
26	704	87	46	34	167	123.6	65.3	48.3	237.2
27	754	50	22	34	106	66.3	29.2	45.1	140.6
28	1,072	58	22	25	105	54.1	20.5	23.3	97.9
29	1,213	29	18	30	77	23.9	14.8	24.7	63.5
30	1,605	28	12	23	63	17.4	7.5	14.3	39.3
31	1,935	32	14	13	59	16.5	7.2	6.7	30.5
32	2,754	29	9	24	62	10.5	3.3	8.7	22.5
33	3,898	35	5	20	60	9.0	1.3	5.1	15.4
34	6,270	36	12	28	76	5.7	1.9	4.5	12.1
35	9,319	35	14	50	99	3.8	1.5	5.4	10.6
36	17,297	39	27	57	123	2.3	1.6	3.3	7.1
37	36,723	55	33	63	151	1.5	0.9	1.7	4.1
38	87,526	80	46	108	234	0.9	0.5	1.2	2.7
39	139,446	68	39	134	241	0.5	0.3	1.0	1.7
40	174,965	82	44	105	231	0.5	0.3	0.6	1.3
41	125,743	66	20	88	174	0.5	0.2	0.7	1.4
42 weeks and over	27,755	20	9	26	55	0.7	0.3	0.9	2.0
Gross inconsistency between birthweight and gestational age under 22 weeks[2,3]	100	27	0	0	27	270.0	0.0	0.0	270.0
Gestational age not stated	4,315	8	7	9	24	1.9	1.6	2.1	5.6
Not linked to NN4B record	873	21	0	1	22	24.1	0.0	1.1	25.2

1 This includes 11 babies weighing 500–999g, eight of whom died. All babies of under 22 weeks gestational age and weighing under 500g died.
2 Under 22 weeks gestational age & birthweight 1,000g and over or not stated.
3 See Methods for discussion of data quality issues affecting births of under 22 weeks gestational age.

Figure 2 Infant mortality by gestational age at birth: 22 weeks and above

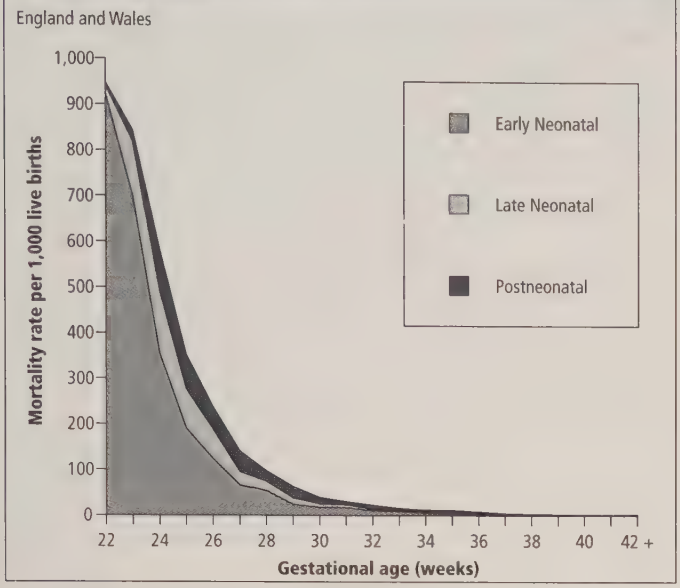
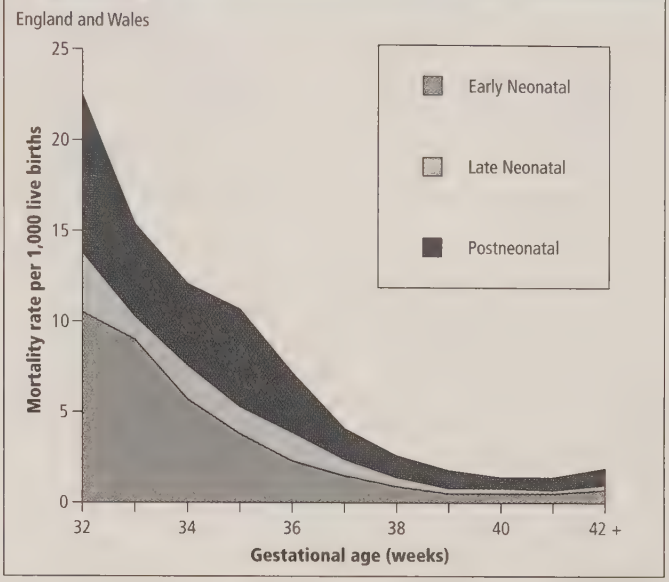


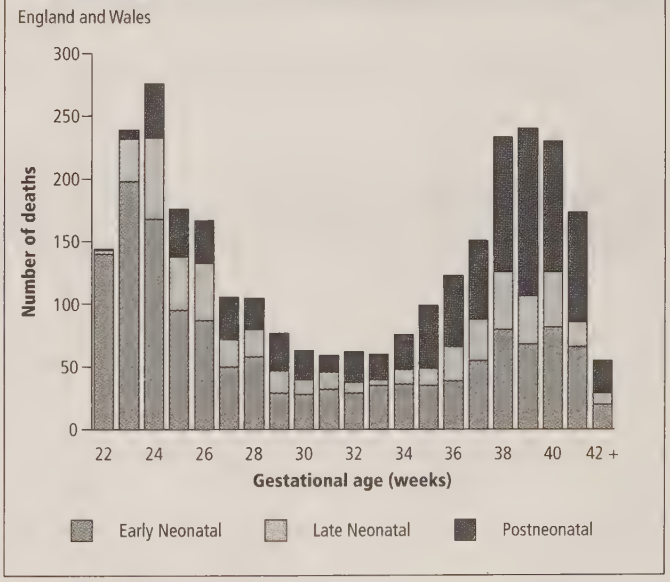
Figure 3 Infant mortality by gestational age at birth: 32 weeks and above



age decreased. Even for babies born only one to four weeks before term infant mortality was over five times that of babies born at term or post term, that is 10.6 deaths per 1,000 live births compared with 1.8 deaths per 1,000 live births. Thirty per cent of babies born at 24–27 weeks gestation died in their first year and 86 per cent of those born at 22–23 weeks died in the first month of life. Ninety-nine per cent of those born at under 22 weeks died in the first week of life.

The bi-modal distribution of deaths shown in Figure 4 resulted from very high infant mortality among the 1.8 per cent of babies born at gestational ages of 22 to 32 weeks, and the very low mortality among the 88 per cent of babies born at term. Almost two-thirds of all infant deaths occurred to babies born preterm while only 7.6 per cent of all live births were preterm. Over one-third of all infant deaths occurred to babies born at 22 to 27 weeks gestational age, a group which included only 0.4 per cent of live births. Figure 4 and Table 3 show the gradual shift from neonatal to postneonatal deaths with increasing gestational age. Among preterm births 62 per cent of infant deaths occurred in the first week of life, and a further 17 per cent in the late neonatal period. Just under half of all infant deaths among term babies occurred in the postneonatal period, that is after the first month of life.

Figure 4 Distribution of infant deaths by gestational age at birth: 22 weeks and above



B. Infant mortality by gestational age and social/biological factors

Birthweight

The distribution of births by gestational age varied considerably by birthweight (Table 4). The pattern that emerged was that in the lower birthweight groups proportionately more babies were born at earlier gestational ages. Thus while the percentage born preterm was the same among babies weighing under 1,000g and 1,000–1,499g at birth, three-quarters of those weighing under 1,000g were born before 28 weeks of gestational age, compared with only 11 per cent of those weighing 1,000–1,499g.

This relationship between birthweight and gestational age is reflected in the much higher neonatal mortality rate of 358.1 per 1,000 among the babies with birthweights under 1,000g compared with only 41.6 per 1,000 among those weighing 1,000–1,499g (Table 5). The neonatal mortality of babies with birthweights of 2,500g and over was very low at only 0.9 per 1,000 live births, reflecting the fact that only 3.0 per cent of births in this group were preterm.

Within each birthweight group, neonatal mortality was inversely associated with gestational age. Similarly within each gestational age group neonatal mortality was inversely associated with birthweight. Even among babies who were not born preterm, neonatal mortality varied considerably by birthweight. Among babies born at term or post term, those weighing 1,500–2,499g at birth had a neonatal mortality rate of 5.3 deaths per 1,000 live births, while among those weighing 2,500g and over it was 0.8 deaths per 1,000 live births. Babies of this weight born at 32–36 weeks of gestational age had a higher neonatal mortality rate of 3.6 deaths per 1,000 live births.

The patterns observed in postneonatal mortality were similar to those for neonatal mortality.

Multiplicity

Singleton and multiple births have very different gestational age distributions (Table 6). Only 6.2 per cent of singleton births were born preterm as compared with over half of the multiple births. As many as 3.5 per cent of babies from multiple births were born before 28 weeks compared to only 0.4 per cent of singletons. These differences are reflected in the overall neonatal mortality of the two groups, 19.1 deaths per 1,000 multiples and 3.0 deaths per 1,000 singletons (Table 7). For singletons and multiples both neonatal and postneonatal mortality were inversely related to gestational age. Within each gestational age group, mortality rates for babies from multiple and singleton births were broadly similar except that among babies born at 32–36 weeks of gestational age the infant mortality rate for multiples was lower than that for singletons. This appeared to apply separately to neonatal and postneonatal mortality but, because of small numbers, these apparent differences were compatible with chance variation. Among babies born at term or post term the neonatal and overall infant mortality rate of multiples exceeded that of singletons.

Age of mother

The percentage of babies born preterm was highest for mothers aged under 20 and those aged 40 and over (Table 8). The proportion of babies born before 28 weeks of gestational age was highest among mothers aged under 20 at 0.7 per cent. This contributed to the high overall neonatal mortality, 4.7 deaths per 1,000 live births, among this group of young mothers (Table 9). This age group also had the highest postneonatal mortality. The slightly higher neonatal mortality among babies of mothers aged 40 and over was almost compensated for by the much lower postneonatal mortality of these babies.

Table 4 **Live births by birthweight and gestational age at birth, 2005**

England and Wales

Gestational age (weeks)	All	Birthweight (grams)				
		Under 1,000	1,000–1,499	1,500–2,499	2,500 and over	Not stated
	Number of live births					
All	645,887	3,217	4,832	40,739	594,930	2,169
Under 24	647	605	5	2	15	20
24–27	2,431	1,795	507	24	71	34
28–31	5,825	648	2,943	1,952	239	43
32–36	39,538	61	1,211	20,536	17,594	136
37 and over	592,158	73	112	17,872	572,373	1,728
All with known gestational age	*640,599*	*3,182*	*4,778*	*40,386*	*590,292*	*1,961*
Low gestational age inconsistent with birthweight	100	0	8	15	65	12
Gestational age not stated	4,315	26	44	311	3,925	9
Not linked to NN4B record	873	9	2	27	648	187
	Percentage of live births with known gestational age					
Under 24	0.1	19.0	0.1	0.0	0.0	1.0
24–27	0.4	56.4	10.6	0.1	0.0	1.7
28–31	0.9	20.4	61.6	4.8	0.0	2.2
32–36	6.2	1.9	25.3	50.8	3.0	6.9
Under 37	***7.6***	***97.7***	***97.7***	***55.7***	***3.0***	***11.9***
	Percentage of all live births					
Gestational age not stated	0.7	0.8	0.9	0.8	0.7	0.4
Not linked to NN4B record	0.1	0.3	0.0	0.1	0.1	8.6

Table 5 Neonatal and postneonatal mortality by birthweight and gestational age at birth, babies born in 2005

England and Wales

Gestational age (weeks)	All	Birthweight (grams)				
		Under 1,000	1,000–1,499	1,500–2,499	2,500 and over	Not stated
	Number of neonatal deaths					
All	2,239[2]	1,152	201	280	528	77
All with known gestational age[1]	2,176	1,142	196	269	522	47
Under 24	584	556	3	1	5	19
24–27	576	515	47	2	4	8
28–31	213	60	116	32	4	1
32–36	241	7	27	140	64	3
37 and over	562	4	3	94	445	16
	Number of postneonatal deaths					
All	961	174	78	190	516	3
All with known gestational age[1]	951	173	76	187	512	3
Under 24	8	8	0	0	0	0
24–27	149	129	16	1	2	1
28–31	91	33	41	17	0	0
32–36	179	3	19	101	56	0
37 and over	524	0	0	68	454	2
	Neonatal mortality per 1,000 live births					
All	3.5	358.1	41.6	6.9	0.9	35.5
All with known gestational age[1]	3.4	358.9	41.0	6.7	0.9	24.0
Under 24	902.6	919.0	*600.0*	*500.0*	*333.3*	950.0
24–27	236.9	286.9	92.7	*83.3*	*56.3*	*235.3*
28–31	36.6	92.6	39.4	16.4	*16.7*	*23.3*
32–36	6.1	*114.8*	22.3	6.8	3.6	*22.1*
37 and over	0.9	*54.8*	*26.8*	5.3	0.8	9.3
	Postneonatal mortality per 1,000 live births					
All	1.5	54.1	16.1	4.7	0.9	*1.4*
All with known gestational age[1]	1.5	54.4	15.9	4.6	0.9	*1.5*
Under 24	*12.4*	*13.2*	*0.0*	*0.0*	*0.0*	*0.0*
24–27	61.3	71.9	31.6	*41.7*	*28.2*	*29.4*
28–31	15.6	50.9	13.9	8.7	*0.0*	*0.0*
32–36	4.5	*49.2*	15.7	4.9	3.2	*0.0*
37 and over	0.9	*0.0*	*0.0*	3.8	0.8	*1.2*
	Infant mortality per 1,000 live births					
All	5.0	412.2	57.7	11.5	1.8	36.9
All with known gestational age[1]	4.9	413.3	56.9	11.3	1.8	25.5
Under 24	915.0	932.2	*600.0*	*500.0*	*333.3*	950.0
24–27	298.2	358.8	124.3	*125.0*	*84.5*	*264.7*
28–31	52.2	143.5	53.3	25.1	*16.7*	*23.3*
32–36	10.6	163.9	38.0	11.7	6.8	*22.1*
37 and over	1.8	*54.8*	*26.8*	9.1	1.6	10.4

Rates based on less than 10 deaths are in italics

1 Excludes those with low gestational age inconsistent with birthweight, or gestational age not stated, or not linked to an NN4B record.
2 This includes one death with birthweight not stated.

Table 6 Live births by multiplicity and gestational age at birth, 2005

England and Wales

Gestational age (weeks)	All	Multiplicity	
		Singleton	Multiple
	Number of live births		
All	645,887	626,917	18,970
Under 24	647	521	126
24–27	2,431	1902	529
28–31	5,825	4,390	1,435
32–36	39,538	31,599	7,939
37 and over	592,158	583,381	8,777
All with known gestational age	*640,599*	*621,793*	*18,806*
Low gestational age inconsistent with birthweight	100	92	8
Gestational age not stated	4,315	4,181	134
Not linked to NN4B record	873	851	22
	Percentage of live births with known gestational age		
Under 24	0.1	0.1	0.7
24–27	0.4	0.3	2.8
28–31	0.9	0.7	7.6
32–36	6.2	5.1	42.2
Under 37	***7.6***	***6.2***	***53.3***
	Percentage of all live births		
Gestational age not stated	0.7	0.7	0.7
Not linked to NN4B record	0.1	0.1	0.1

Among term and post term births combined the postneonatal mortality of babies born to mothers aged under 20 and those aged 20–24 was twice that of babies born to mothers in each of the older age groups. Postneonatal mortality of babies born at 32–36 weeks was also higher among mothers aged under 20 and 20–24 years.

Marital status and type of registration

The percentage of babies born preterm varied by marital status/registration type (Table 10). It ranged from 7.0 per cent among babies born inside marriage to 9.2 per cent among babies born outside marriage with parents at different addresses and 9.6 per cent among sole registrations. The percentage born at under 28 weeks gestational age was twice as high among jointly registered babies with parents at different addresses than among babies born inside marriage. The percentage born at gestational ages 32–36 weeks was 7.7 per cent for sole registrations, considerably higher than in the other groups.

These differences in the gestational age distributions were reflected in the neonatal mortality of the marital status/registration type groups (Table 11). The particularly high mortality of 4.9 deaths per 1,000 live births in the joint registration/different address group reflected the high rate of preterm birth in this group. While the gestation-specific neonatal mortality rates did vary across marital status/registration type groups there was no obvious pattern to these rates although in several gestational age groups the sole registered births had the lowest mortality rate.

Postneonatal mortality was particularly high among sole registered births and the jointly registered/different address group. The rates were 2.8 and 2.3 deaths per 1,000 live births respectively, over twice the rate of 1.2 deaths per 1,000 live births observed among births in marriage. Within the gestational age groups 28–31, 32–36 and 37 weeks and over postneonatal mortality among sole registered births was much higher than in any other category. Among term and post term births combined the postneonatal mortality among sole registrations and births jointly registered by parents at different addresses was at least twice that of births inside marriage.

Table 7 Neonatal and postneonatal mortality by multiplicity and gestational age at birth, babies born in 2005

England and Wales

Gestational age (weeks)	All	Multiplicity	
		Singleton	Multiple
	Number of neonatal deaths		
All	2,239	1,876	363
All with known gestational age[1]	2,176	1,822	354
Under 24	584	470	114
24–27	576	442	134
28–31	213	161	52
32–36	241	201	40
37 and over	562	548	14
	Number of postneonatal deaths		
All	961	867	94
All with known gestational age[1]	951	857	94
Under 24	8	6	2
24–27	149	117	32
28–31	91	67	24
32–36	179	153	26
37 and over	524	514	10
	Neonatal mortality per 1,000 live births		
All	3.5	3.0	19.1
All with known gestational age[1]	3.4	2.9	18.8
Under 24	902.6	902.1	904.8
24–27	236.9	232.4	253.3
28–31	36.6	36.7	36.2
32–36	6.1	6.4	5.0
37 and over	0.9	0.9	1.6
	Postneonatal mortality per 1,000 live births		
All	1.5	1.4	5.0
All with known gestational age[1]	1.5	1.4	5.0
Under 24	*12.4*	*11.5*	*15.9*
24–27	61.3	61.5	60.5
28–31	15.6	15.3	16.7
32–36	4.5	4.8	3.3
37 and over	0.9	0.9	1.1
	Infant mortality per 1,000 live births		
All	5.0	4.4	24.1
All with known gestational age[1]	4.9	4.3	23.8
Under 24	915.0	913.6	920.6
24–27	298.2	293.9	313.8
28–31	52.2	51.9	53.0
32–36	10.6	11.2	8.3
37 and over	1.8	1.8	2.7

Rates based on less than 10 deaths are in italics

1 Excludes those with low gestational age inconsistent with birthweight, or gestational age not stated, or not linked to an NN4B record.

NS-SEC

Only births in marriage and those jointly registered by both parents were included in these tables as the father's occupation is not recorded for sole registrations. As NS-SEC is coded for only a ten per cent sample of live births, the three-class version of NS-SEC was used here rather than the more detailed five- or eight-class versions.

Among babies with fathers whose occupations could be coded to a specific NS-SEC group, the percentage of preterm births was highest among babies with fathers in routine and manual occupations and lowest among those with fathers in professional and managerial occupations

Table 8 Live births by mother's age and gestational age at birth, 2005

England and Wales

Gestational age (weeks)	All	Mother's age					
		Under 20	20–24	25–29	30–34	35–39	40 and over
	Number of live births						
All	645,887	44,829	122,163	164,364	188,139	104,136	22,256
Under 24	647	56	131	158	157	121	24
24–27	2,431	238	459	569	656	416	93
28–31	5,825	509	1,130	1,418	1,546	973	249
32–36	39,538	2,912	7,174	9,905	11,229	6,683	1,635
37 and over	592,158	40,580	111,990	150,917	173,281	95,267	20,123
All with known gestational age	*640,599*	*44,295*	*120,884*	*162,967*	*186,869*	*103,460*	*22,124*
Low gestational age inconsistent with birthweight	100	3	21	18	29	22	7
Gestational age not stated	4,315	474	1,097	1,125	998	526	95
Not linked to NN4B record	873	57	161	254	243	128	30
	Percentage of live births with known gestational age						
Under 24	0.1	0.1	0.1	0.1	0.1	0.1	0.1
24–27	0.4	0.5	0.4	0.3	0.4	0.4	0.4
28–31	0.9	1.1	0.9	0.9	0.8	0.9	1.1
32–36	6.2	6.6	5.9	6.1	6.0	6.5	7.4
Under 37	***7.6***	***8.4***	***7.4***	***7.4***	***7.3***	***7.9***	***9.0***
	Percentage of all live births						
Gestational age not stated	0.7	1.1	0.9	0.7	0.5	0.5	0.4
Not linked to NN4B record	0.1	0.1	0.1	0.2	0.1	0.1	0.1

(Table 12). The routine and manual group also had the highest proportion of births before 28 weeks of gestational age. The percentage of preterm births was highest however in the 'Other' group, that is births where the father's occupation could not be coded to NS-SEC as no occupational information was available. This group is heterogeneous in nature, including full-time students and young people who have yet to enter paid employment, the long-term unemployed and those with inadequately described occupations.

From 28 weeks of gestation onwards, gestation-specific neonatal and postneonatal mortality rates were consistently higher in the routine and manual group than either the intermediate or the managerial and professional groups (Table 13). The differences between the routine and manual group and the managerial and professional group were particularly large for postneonatal mortality. For babies born at 28–31 weeks and at 37 weeks and above the postneonatal mortality in the routine and manual group was almost twice that of the managerial and professional group. Among babies born at 24–27 weeks of gestational age, neonatal mortality was higher in the routine and manual group than either of the other two specific NS-SEC groups. The mortality rates for babies born at under 24 weeks should be interpreted with great caution as the number of births in the 10 per cent sample coded to an NS-SEC are extremely small and the rates therefore had wide confidence intervals. Consequently the estimated numbers of births in the denominators could actually be lower than the numbers of deaths, in which case the rates per 1,000 live births could exceed 1,000 as was the case for the intermediate and the 'Other' groups.

Discussion

This article provides the first gestation-specific infant mortality rates for England and Wales. These new statistics, derived by enhancing birth registration data with the newly available NHS Numbers for Babies dataset, fill an important gap in the routine data on births and infant mortality. They provide a useful addition to what is already known about health inequalities in infant mortality, and as such will inform the delivery of the national health inequalities infant mortality PSA target. They also provide data for a large population and include information on 646,000 births. In contrast many of the gestational age data available to date come from countries with good quality statistical systems but small populations. In many respects, our findings are broadly similar to those from other countries, both within the UK and internationally. In theory, it is feasible to compare these findings with gestation-specific mortality data for Scotland and, using other sources, for Wales alone.[3,6] The relatively small numbers of births in those countries, 54,678 in Scotland and 32,768 in Wales in 2005,[12] limits our ability to make useful comparisons, however.

The data presented here indicate extremely high infant mortality at the very low gestational ages, with almost 95 per cent of babies of 22 weeks gestational age dying in infancy, almost all of them in the first week of life. There was a strong inverse association between mortality and gestational age with a rate of 1.3 deaths per 1,000 live births among babies born at 40 weeks gestational age. Although infant mortality was very low among babies born at term, 37 to 41 weeks, there was considerable variation in mortality within this group with mortality among those born at 37 weeks three times that of those born at 40 weeks. The infant mortality rate of preterm births was 42 deaths per 1,000 live births and, although only 7.6 per cent of live births were born preterm, almost two-thirds of infant deaths occurred to preterm babies. While 80 per cent of deaths among preterm babies occurred in the first month of life, only just over half of all infant deaths among term babies occurred at this age.

As a consequence of the high mortality among preterm births, differences in the incidence of preterm birth, especially in the incidence of births at very low gestational ages, made a major contribution to variations in the infant mortality rates for social and biological groups. Social and biological differences in mortality can also be seen within gestational age groups. Focussing on term and post term births, which after all account for 92 per cent of live births, some clear differentials were evident. Even amongst this group of births, low birthweight babies had much higher neonatal and postneonatal mortality than did babies weighing 2,500g and over at birth. Neonatal mortality among babies weighing 1,500–2,499g

Table 9 Neonatal and postneonatal mortality by mother's age and gestational age at birth, babies born in 2005

England and Wales

Gestational age (weeks)	All	Mother's age					
		Under 20	20–24	25–29	30–34	35–39	40 and over
	Number of neonatal deaths						
All	2,239[2]	210	452	580	576	338	82
All with known gestational age[1]	2,176	207	434	568	559	329	79
Under 24	584	48	121	147	137	109	22
24–27	576	69	115	122	168	90	12
28–31	213	24	38	62	56	24	9
32–36	241	21	41	76	59	32	12
37 and over	562	45	119	161	139	74	24
	Number of postneonatal deaths						
All	961	101	253	212	221	148	26
All with known gestational age[1]	951	101	248	210	221	147	24
Under 24	8	1	2	2	2	1	0
24–27	149	12	25	31	34	43	4
28–31	91	11	18	26	23	8	5
32–36	179	18	45	43	39	27	7
37 and over	524	59	158	108	123	68	8
	Neonatal mortality per 1,000 live births						
All	3.5	4.7	3.7	3.5	3.1	3.2	3.7
All with known gestational age[1]	3.4	4.7	3.6	3.5	3.0	3.2	3.6
Under 24	902.6	857.1	923.7	930.4	872.6	900.8	916.7
24–27	236.9	289.9	250.5	214.4	256.1	216.3	129.0
28–31	36.6	47.2	33.6	43.7	36.2	24.7	*36.1*
32–36	6.1	7.2	5.7	7.7	5.3	4.8	7.3
37 and over	0.9	1.1	1.1	1.1	0.8	0.8	1.2
	Postneonatal mortality per 1,000 live births						
All	1.5	2.3	2.1	1.3	1.2	1.4	1.2
All with known gestational age[1]	1.5	2.3	2.1	1.3	1.2	1.4	1.1
Under 24	*12.4*	*17.9*	*15.3*	*12.7*	*12.7*	*8.3*	*0.0*
24–27	61.3	50.4	54.5	54.5	51.8	103.4	*43.0*
28–31	15.6	21.6	15.9	18.3	14.9	*8.2*	*20.1*
32–36	4.5	6.2	6.3	4.3	3.5	4.0	*4.3*
37 and over	0.9	1.5	1.4	0.7	0.7	0.7	*0.4*
	Infant mortality per 1,000 live births						
All	5.0	6.9	5.8	4.8	4.2	4.7	4.9
All with known gestational age[1]	4.9	7.0	5.6	4.8	4.2	4.6	4.7
Under 24	915.0	875.0	938.9	943.0	885.4	909.1	916.7
24–27	298.2	340.3	305.0	268.9	307.9	319.7	172.0
28–31	52.2	68.8	49.6	62.1	51.1	32.9	56.2
32–36	10.6	13.4	12.0	12.0	8.7	8.8	11.6
37 and over	1.8	2.6	2.5	1.8	1.5	1.5	1.6

Rates based on less than 10 deaths are in italics.

1 Excludes those with low gestational age inconsistent with birthweight, or gestational age not stated, or not linked to an NN4B record.
2 This includes one death with mother's age not stated.

was 5.3 deaths per 1,000 live births as compared to 0.8 deaths per 1,000 live births among those weighing 2,500g and over. The equivalent figures for postneonatal mortality were 3.8 and 0.8 deaths per 1,000 live births respectively.

Among term or post term births neonatal and overall infant mortality was higher for multiples than for singletons. However among babies born at gestational ages of 32–36 weeks multiple births actually had lower infant mortality rates than singletons. This phenomenon has been noted elsewhere[19] and has also been evident in birthweight-specific survival.[4,20] It may reflect the more rapid maturation of multiples, the better surveillance of multiple pregnancies, or differences in the antecedents of preterm labour in multiples and singletons at these gestations.

Differences in the postneonatal mortality of babies born at term or post term were evident across groups defined by marital status/registration type, by maternal age, and by NS-SEC. Those born in marriage had postneonatal mortality half that of those registered by the mother alone or jointly registered by parents living at different addresses. Babies born to mothers aged 25–29, 30–34 or 35–39 had postneonatal mortality rates which were half those of babies whose mothers were aged under 20 or

Table 10 Live births by marital status/type of registration and gestational age at birth, 2005

England and Wales

Gestational age (weeks)	All	Marital Status/type of registration			
		Inside marriage	Joint registration/same address	Joint registration/different address	Sole registration
	Number of live births				
All	645,887	369,373	175,571	55,778	45,165
Under 24	647	322	193	83	49
24–27	2,431	1,192	667	347	225
28–31	5,825	2,934	1,593	728	570
32–36	39,538	21,391	10,836	3,901	3,410
37 and over	592,158	341,145	160,705	50,039	40,269
All with known gestational age	*640,599*	*366,984*	*173,994*	*55,098*	*44,523*
Low gestational age inconsistent with birthweight	100	58	21	11	10
Gestational age not stated	4,315	1,836	1,342	581	556
Not linked to NN4B record	873	495	214	88	76
	Percentage of live births with known gestational age				
Under 24	0.1	0.1	0.1	0.2	0.1
24–27	0.4	0.3	0.4	0.6	0.5
28–31	0.9	0.8	0.9	1.3	1.3
32–36	6.2	5.8	6.2	7.1	7.7
Under 37	***7.6***	***7.0***	***7.6***	***9.2***	***9.6***
	Percentage of all live births				
Gestational age not stated	0.7	0.5	0.8	1.0	1.2
Not linked to NN4B record	0.1	0.1	0.1	0.2	0.2

aged 20–24 years. Term/post term babies with fathers in managerial or professional occupations had the lowest postneonatal mortality of any group identified in our analysis, 0.5 deaths per 1,000 live births. Postneonatal mortality among those with fathers in routine or manual occupations was 0.9 deaths per 1,000 live births.

It should be noted that previous studies have shown higher infant mortality rates among babies born before 24 weeks gestational age than seen in our data. In particular the EPICure study, covering births before 25 weeks gestational age in the United Kingdom and Ireland from March to December 1995, showed that babies born alive at under 22, at 22 and at 23 weeks gestational age had neonatal mortality rates of 1,000, 978 and 842 deaths per 1,000 live births respectively.[17] Mortality by 30 months of age for babies born at 22 and 23 weeks of gestational age was 986 and 896 deaths per 1,000 live births respectively.[21] More recent data are due soon from the EPICure 2 study. It is important that the information on the live births and in particular the infant deaths recorded in our data with a gestational age of less than 24 weeks is validated against other sources before the apparent decrease in the infant mortality of babies born at these very early gestational ages is taken at face value.

The World Health Organisation (WHO) and its predecessors have long made a distinction between definitions of live birth, which are based on signs of life, and criteria for including births in perinatal statistics produced for making comparisons between countries.[18,4] Infant mortality statistics produced by ONS are based on all registrations of babies born alive in England and Wales and all deaths in the first year of life among them.[11,12] Where comparisons are to be made with other countries, however, WHO recommends using common gestational age thresholds to produce perinatal statistics on a comparable basis.[18] Up until now it has not been possible to include data for England and Wales in such comparisons. The availability of gestational age data will make this possible in the future.

As this is a new source, which relies on linking data collected for different administrative purposes, there are data quality issues, mentioned above, that require further investigation. The information available to us at this stage gives rise to serious doubt as to whether the births recorded as being of under 22 weeks gestational age with birthweights 1,000g and over really are of extremely low gestational age. Focussing on all babies recorded as born before 24 weeks gestational age, the inconsistencies in the recording of gestational age and birthweight information will be investigated further by cross-validating the information against that collected by the Confidential Enquiry into Maternal and Child Health (CEMACH).

In this first exploration of the gestation-specific infant mortality data the analyses were univariate. Multivariate analyses are clearly required in order to attempt to untangle the importance of different social and biological factors. Undertaking a multivariate analysis should allow us to strengthen our conclusions, although the high level of inter-correlation between variables will make this challenging.

The data analysed here are only a subset of variables recorded at birth registration and on the NN4B record. There is now the potential for analyses on other subjects, including parents' countries of birth, ethnicity and the site of the babies' birth. Many births at low gestational ages are stillborn and although stillbirths are not included in this article they will be the subject of future work on gestation-specific stillbirth and perinatal mortality.

Table 11 Neonatal and postneonatal mortality by marital status/type of registration and gestational age at birth, babies born in 2005

England and Wales

Gestational age (weeks)	All	Marital Status/type of registration			
		Inside marriage	Joint registration/same address	Joint registration/different address	Sole registration
	Number of neonatal deaths				
All	2,239[2]	1,146	647	271	174
All with known gestational age[1]	2,176	1,120	631	264	161
Under 24	584	294	176	75	39
24–27	576	275	161	80	60
28–31	213	111	56	32	14
32–36	241	138	63	29	11
37 and over	562	302	175	48	37
	Number of postneonatal deaths				
All	961	449	257	129	126
All with known gestational age[1]	951	444	254	128	125
Under 24	8	4	1	1	2
24–27	149	67	37	28	17
28–31	91	48	17	12	14
32–36	179	83	53	19	24
37 and over	524	242	146	68	68
	Neonatal mortality per 1,000 live births				
All	3.5	3.1	3.7	4.9	3.9
All with known gestational age[1]	3.4	3.1	3.6	4.8	3.6
Under 24	902.6	913.0	911.9	903.6	795.9
24–27	236.9	230.7	241.4	230.5	266.7
28–31	36.6	37.8	35.2	44.0	24.6
32–36	6.1	6.5	5.8	7.4	3.2
37 and over	0.9	0.9	1.1	1.0	0.9
	Postneonatal mortality per 1,000 live births				
All	1.5	1.2	1.5	2.3	2.8
All with known gestational age[1]	1.5	1.2	1.5	2.3	2.8
Under 24	*12.4*	*12.4*	*5.2*	*12.0*	*40.8*
24–27	61.3	56.2	55.5	80.7	75.6
28–31	15.6	16.4	10.7	16.5	24.6
32–36	4.5	3.9	4.9	4.9	7.0
37 and over	0.9	0.7	0.9	1.4	1.7
	Infant mortality per 1,000 live births				
All	5.0	4.3	5.1	7.2	6.6
All with known gestational age[1]	4.9	4.3	5.1	7.1	6.4
Under 24	915.0	925.5	917.1	915.7	836.7
24–27	298.2	286.9	296.9	311.2	342.2
28–31	52.2	54.2	45.8	60.4	49.1
32–36	10.6	10.3	10.7	12.3	10.3
37 and over	1.8	1.6	2.0	2.3	2.6

Rates based on less than 10 deaths are in italics.

1 Excludes those with low gestational age inconsistent with birthweight, or gestational age not stated, or not linked to an NN4B record.
2 This includes one death with marital status/type of registration not stated.

Table 12 **Live births[1] by NS-SEC (based on father's occupation) and gestational age at birth, 2005**

England and Wales

Gestational age (weeks)	All[2]	National Statistics Socio–Economic Classification			
		Managerial and Professional	Intermediate	Routine and Manual	Other[3]
	Numbers of live births				
All	600,722	22,618	11,677	22,378	3,612
Under 24	598	19	8	37	4
24–27	2,206	65	41	88	28
28–31	5,255	171	101	222	44
32–36	36,128	1,247	701	1,457	253
37 and over	551,889	20,994	10,744	20,361	3,224
All with known gestational age	*596,076*	*22,496*	*11,595*	*22,165*	*3,553*
Low gestational age inconsistent with birthweight	90	2	4	5	1
Gestational age not stated	3,759	88	66	175	47
Not linked to NN4B record	797	32	12	33	11
	Percentage of live births with known gestational age				
Under 24	0.1	0.1	0.1	0.2	0.1
24–27	0.4	0.3	0.4	0.4	0.8
28–31	0.9	0.8	0.9	1.0	1.2
32–36	6.1	5.5	6.0	6.6	7.1
Under 37	***7.4***	***6.7***	***7.3***	***8.1***	***9.3***
	Percentage of all live births				
Gestational age not stated	0.6	0.4	0.6	0.8	1.3
Not linked to NN4B record	0.1	0.1	0.1	0.1	0.3

1 Figures for live births in NS-SEC groups are a 10 per cent sample coded for father's occupation.
2 Inside marriage and outside marriage/joint registration only, including cases where father's occupation was not stated. Information on father's occupation is not collected for births outside marriage if the father does not attend the registration of the baby's birth.
3 Students; occupations inadequately described, occupations not classifiable for other reasons; never worked and long-term unemployed.

Table 13 Neonatal and postneonatal mortality by NS–SEC (based on father's occupation at death registration) and gestational age at birth, babies born in 2005

England and Wales

Gestational age (weeks)	All[1]	National Statistics Socio–Economic Classification			
		Managerial and Professional	Intermediate	Routine and Manual	Other[2]
	Number of neonatal deaths				
All	2,064	591	356	875	208
All with known gestational age[3]	2,015	582	347	850	203
Under 24	545	155	87	243	54
24–27	516	141	93	221	51
28–31	199	54	34	87	24
32–36	230	74	39	97	17
37 and over	525	158	94	202	57
	Number of postneonatal deaths				
All	835	187	151	345	130
All with known gestational age[3]	826	184	148	342	130
Under 24	6	0	2	4	0
24–27	132	35	30	46	18
28–31	77	15	6	37	18
32–36	155	37	22	68	25
37 and over	456	97	88	187	69
	Neonatal mortality per 1,000 live births				
All	3.4	2.6	3.0	3.9	5.8
All with known gestational age[3]	3.4	2.6	3.0	3.8	5.7
Under 24	911.4	815.8	1087.5	656.8	1350.0
24–27	233.9	216.9	226.8	251.1	182.1
28–31	37.9	31.6	33.7	39.2	54.5
32–36	6.4	5.9	5.6	6.7	6.7
37 and over	1.0	0.8	0.9	1.0	1.8
	Postneonatal mortality per 1,000 live births				
All	1.4	0.8	1.3	1.5	3.6
All with known gestational age[3]	1.4	0.8	1.3	1.5	3.7
Under 24	*10.0*	*0.0*	*25.0*	*10.8*	*0.0*
24–27	59.8	53.8	73.2	52.3	64.3
28–31	14.7	8.8	*5.9*	16.7	40.9
32–36	4.3	3.0	3.1	4.7	9.9
37 and over	0.8	0.5	0.8	0.9	2.1
	Infant mortality per 1,000 live births				
All	4.8	3.4	4.3	5.5	9.4
All with known gestational age[3]	4.8	3.4	4.3	5.4	9.4
Under 24	921.4	815.8	1112.5	667.6	1350.0
24–27	293.7	270.8	300.0	303.4	246.4
28–31	52.5	40.4	39.6	55.9	95.5
32–36	10.7	8.9	8.7	11.3	16.6
37 and over	1.8	1.2	1.7	1.9	3.9

Rates based on less than 10 deaths are in italics

1 Inside marriage and outside marriage/joint registration only, including cases where father's occupation was not stated.
2 Students;occupations inadequately described, occupations not classifiable for other reasons; never worked and long-term unemployed.
3 Excludes those with low gestational age inconsistent with birthweight, or gestational age not stated, or not linked to an NN4B record.

Key findings

- Gestational age is known for 99.2 per cent of live births in 2005.
- In 2005 7.6 per cent of live births were preterm, under 37 weeks gestational age, 88 per cent were born at term, 37 to 41 weeks, and 4 per cent were born post term, 42 weeks and above. The corresponding infant mortality rates were 42, 1.8, and 2.0 deaths per 1,000 live births respectively.
- Infant mortality was highest at the very low gestational ages, 947 deaths per 1,000 live births among babies born at 22 weeks. It then decreased with gestational age to 1.3 deaths per 1,000 live births among babies born at 40 weeks gestation.
- Infant mortality varied considerably among term births. The infant mortality rate of babies born at 37 weeks was over three times that of babies born at 40 weeks.
- Among babies born at 37 weeks and above, the neonatal mortality rate of those weighing 1,500–2,499g at birth was 5.3 deaths per 1,000 live births as compared to 0.8 deaths per 1,000 live births for those weighing 2,500g and over.
- For babies born at 37 weeks and above, the postneonatal mortality among babies with fathers in routine and manual occupations was almost twice that of babies whose fathers had managerial and professional occupations.

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Review of methods for estimating life expectancy by social class using the ONS Longitudinal Study

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This article presents proposed changes in the methods used to estimate life expectancy by social class using the ONS Longitudinal Study (LS).

The changes reviewed are:

- **computational changes, including revised methods for age-specific mortality rates, more precise survival duration calculations and increased social class attribution through the inclusion of updated information**
- **extension of the criteria used to exclude LS members from the analysis, using information on presence at the 2001 Census**
- **the use of Health Authority deregistration data to approximate unrecorded emigration, together with information from the 2001 Census, to reduce a potential source of bias in mortality calculations**

The impact on existing results is quantified and it is proposed that these methods are used in the updating of the published series.

Introduction

Life expectancy by socio-economic status is an important measure of health inequality.[1] The last article published by the Office for National Statistics (ONS) on life expectancy by social class using data from the ONS Longitudinal Study (LS) showed estimates of life expectancy at birth and at age 65 between 1972 and 1999.[2] Since then, information from the 2001 Census was linked to the LS and this was used to update the estimates published on the National Statistics website to 2001.[3]

New data and methods have become available to improve these estimates and to form the basis for updating of the series. The purposes of this article are:

- to report on the methodological refinements for estimation of life expectancy using the LS
- to evaluate the impact of the new methods and data on the results by comparison with previously published estimates
- to recommend changes to be incorporated in the estimation process when the series is updated, later this year, to include data up to 2005

The classification Registrar General's Social Class (see Box 1), was replaced by the National Statistics Socio-Economic Classification (NS-SEC) from 2001 in official statistics and surveys.[4] The analyses reported here use the former so that the impact of the methodological changes proposed can be assessed by comparison with past published results and to allow the series to be updated on a consistent basis.

Methods

Calculating life expectancy using the ONS Longitudinal Study

The LS is a representative sample of approximately 1 per cent of the population of England and Wales, linking data from censuses from 1971 onwards with birth and death registrations and other life events.[5] Members are selected for the Study using four dates of birth (day and month). Entry events (births and immigration) add LS members to the sample. Exit events include death and emigration from England and Wales. The LS uses the National Health Service Central Register (NHSCR) to link LS members' records from census to census and to link routine events, such as births and deaths. Data linkage takes place largely through 'tracing', which involves finding LS members' records on the NHSCR. This linkage allows the attribution of social class by occupation (and other socio-economic variables) recorded at census to subsequent death records, providing a source of mortality rate estimates by age, sex and social class which is continuous across time.

Life expectancy at birth for a particular social class and time period is an estimate of the number of years a new born baby would survive, were he or she to experience the average age-specific mortality rates of the social class in that time period throughout his or her life. Life expectancy at 65 for a social class is an estimate of the number of additional years a person who had reached the age of 65 would survive, were he or she to experience the average age-specific mortality rates of the social class in that time period for the remainder of his or her life. Thus life expectancy as calculated using the LS is a reflection of contemporary mortality rates, not a projection of future ones.

Assigning Social Class

To date, published life expectancy figures by social class derived from the LS have been based on categorising people according to their occupation at entry to the LS, from 1971 onwards, following Hattersley.[6] Donkin *et al*[2] investigated the impact of routinely assigning social class at later points, but the principal published series have adhered to categorisation at entry.

Box one

Social class based on occupation (formerly Registrar General's Social Class)

Class description	Examples of occupations:
Non-manual	
I Professional	Doctors, chartered accountants, professionally qualified engineers
II Managerial & technical/intermediate	Managers, journalists, school teachers
IIIN Skilled non-manual	Clerks, cashiers, retail staff
Manual	
IIIM Skilled manual	Supervisors of manual workers, plumbers, electricians, goods vehicle drivers
IV Partly skilled	Warehousemen, security guards, machine tool operators, care assistants, waiters and waitresses
V Unskilled	Labourers, cleaners and messengers

Where possible, an individual's own social class was used. For those with no assigned occupation, spouse's social class was used. For anyone who had been a child during the study period, their father's social class was used, (or, failing that, the mother's). For new births the social class of the father, or failing that, the mother, was assigned at the first census in which they appeared. If no census record was found, social class of the father, (or failing that, the mother) at birth was assigned. Immigrants were assigned a social class at the first census at which they appeared and were not included in the sample unless they were identified as having a census record. If none of this information produced a valid social class, the individual was included in the analysis as 'unclassified'.

Exclusions from the study sample

In calculating the age-specific mortality rates, certain exclusions were applied to the LS sample. Those who could not be traced at the NHS Central Register were excluded since their deaths are unlikely to be linked to their LS records. Those who were recorded as emigrating were included up to the point of their emigration but excluded subsequently, even if there was a subsequent record of re-entry. All members who were not known to have died or embarked but were not found at the next census were excluded, as were immigrants who were not present at any census. The reason for these exclusions is that if the person's record is sparse or they are frequently entering or leaving the country, there is a danger of bias in including their records in the denominators of mortality rates. They may not be 'at risk' for the purpose of this analysis if they are not actually domiciled in England and Wales and their deaths will almost certainly not be linked to their LS record.

Existing results

Table 1 shows the most recent published results for life expectancy at birth and age 65 by social class.

New methods

1. Computational changes

(i) Life table abridgement

In LS analyses,[2, 6] abridged life tables are used. Age specific mortality rates are grouped into five-year age bands. Formerly the Reed-Merrell transformation[7] was used to derive q_x, the probability of dying in interval x....x+1, from M_x, the raw age-specific mortality rate for that interval. This was replaced by Chiang's method[15] of abridgement and conversion of M_x into q_x to harmonise life expectancy methods across ONS (see for example Toson and Baker[10]).

(ii) Use of Stata for more precise estimation of survival duration

The Stata[12] software package facilitates the precise calculation of deaths and person years at risk in each time and calendar interval, replacing a routine which used an approximation.

(iii) The addition of LS members who were traced during the decade following a Census

New derived variables added to the LS following the 2001 Census-LS link allow the identification of 'late traced' records. These are LS members who were present at a census, but only traced later in the following decade, typically after they had registered with a GP.

Impact of computational changes

The combined impact of the above methodological changes are summarised in Table 2 which is based on the same sample used for the published results shown in Table 1. Changes from the published results are typically increases in the estimates of life expectancy at birth of between 0.1 years and 0.3 years. This is principally a result of the more precise allocation of deaths to age groups resulting from the adoption of the Stata software. The general effect was to raise the mean age at death

Table 1 Life Expectancy at birth and at age 65 by sex and social class, 1972-2001 (2006 published figures[3])

England and Wales

Social Class	Year											
	1972–76		1977–81		1982–86		1987–91		1992–96		1997–2001	
	Life expectancy	95% CI (+/–)	Life expectancy	95% CI (+/–)	Life expectancy	95% CI (+/–)	Life expectancy	95% CI (+/–)	Life expectancy	95% CI (+/–)	Life expectancy	95% CI (+/–)
Males												
At birth												
I	71.9	1.4	74.5	1.4	75.1	1.2	76.7	1.1	77.6	1.1	79.4	1.1
II	71.7	0.6	72.4	0.6	73.8	0.6	74.5	0.6	75.9	0.5	77.8	0.5
IIIN	69.4	0.9	70.7	0.8	72.1	0.8	73.7	0.8	75.0	0.8	76.8	0.8
IIIM	69.7	0.5	70.0	0.5	71.4	0.4	72.5	0.4	73.5	0.4	74.6	0.4
IV	68.3	0.7	68.8	0.7	70.7	0.6	70.5	0.6	72.6	0.7	73.3	0.7
V	66.4	1.2	67.2	1.1	67.7	1.1	68.2	1.0	68.5	1.2	71.0	1.1
All men	69.2	0.3	70.0	0.3	71.5	0.3	72.4	0.2	73.8	0.3	75.4	0.2
At age 65												
I	14.2	1.3	15.5	1.2	15.4	1.0	15.8	1.0	16.9	0.8	18.3	0.8
II	13.3	0.5	14.2	0.5	14.4	0.4	14.9	0.4	15.6	0.4	17.1	0.4
IIIN	12.6	0.6	13.3	0.6	13.6	0.5	14.1	0.5	15.2	0.6	16.7	0.5
IIIM	12.2	0.3	12.6	0.3	13.0	0.3	13.5	0.3	14.3	0.3	15.2	0.3
IV	12.3	0.4	12.1	0.4	12.6	0.4	12.7	0.4	13.9	0.4	14.2	0.4
V	11.6	0.5	11.9	0.5	11.6	0.6	11.8	0.6	12.7	0.7	13.3	0.7
All men	12.3	0.2	12.7	0.2	13.1	0.2	13.6	0.2	14.6	0.2	15.7	0.2
Females												
At birth												
I	79.1	2.4	80.0	2.2	80.3	1.5	80.8	1.2	83.2	1.2	82.2	1.2
II	76.9	0.7	78.2	0.7	78.5	0.6	80.2	0.6	81.1	0.5	81.7	0.5
IIIN	78.0	0.9	78.1	0.7	78.6	0.6	79.3	0.6	80.4	0.6	81.3	0.6
IIIM	75.1	0.7	76.1	0.6	77.1	0.5	77.7	0.5	78.9	0.5	79.3	0.5
IV	75.0	0.8	76.1	0.7	77.4	0.6	77.1	0.6	77.7	0.6	78.6	0.6
V	73.8	1.4	74.9	1.2	75.3	1.1	76.3	1.0	77.1	1.0	77.6	1.0
All women	75.2	0.3	76.4	0.3	77.2	0.2	78.0	0.2	79.1	0.2	80.1	0.2
At age 65												
I	19.3	2.4	20.0	2.2	18.6	1.4	18.7	1.0	20.9	1.1	20.6	0.9
II	17.1	0.6	17.8	0.5	18.0	0.5	18.8	0.4	19.5	0.4	20.1	0.4
IIIN	17.8	0.8	17.6	0.6	18.0	0.5	18.4	0.4	19.0	0.4	19.7	0.4
IIIM	16.3	0.7	16.9	0.5	16.8	0.4	16.9	0.4	18.0	0.4	18.2	0.4
IV	16.8	0.6	16.8	0.5	17.4	0.4	17.0	0.4	17.2	0.4	17.8	0.4
V	16.4	0.9	16.3	0.8	16.1	0.6	16.0	0.6	16.5	0.6	16.9	0.6
All women	16.2	0.2	16.7	0.2	16.9	0.2	17.3	0.2	18.0	0.2	18.8	0.2

Source: ONS Longitudinal Study

which has a positive impact on the estimates. Changes to the estimates for individual social classes in different periods were generally positive, reflecting the aggregate change, but were more varied. The additional LS members classified as 'traced' increased the number with an assigned social class. The distribution of deaths and population denominators for these newly classified members resulted in the differential effect across social classes and also tended to increase the estimates of life expectancy for those with an assigned social class at the expense of those who were unclassified. This meant that changes in aggregate estimates for all men and all women were on average less than for individual social classes.

For Social Class I males in the period 1987–91, there was a reduction of 0.4 years in life expectancy at birth, owing to an increase in infant deaths assigned to this class in this period. However this change is the result of the reassignment of just ten deaths and so should be interpreted with caution.

The changes in life table computation (from the Reed-Merrell method to Chiang), had a small effect, with a maximum impact on the estimates of 0.1 years of life at birth for any social class in any period.

Table 2 **Change in estimated life expectancy by social class at birth and age 65 resulting from technical changes to the estimation methods**

England and Wales

	Year											
	1972–76		1977–81		1982–86		1987–91		1992–96		1997–2001	
	Revised life expectancy	change from published	Revised life expectancy	change from published	Revised life expectancy	change from published	Revised life expectancy	change from published	Revised life expectancy	change from published	Revised life expectancy	change from published
Males												
At birth												
I	71.9	0.0	74.5	0.0	75.1	0.0	76.3	–0.4	77.9	0.4	79.6	0.2
II	72.0	0.2	72.6	0.2	74.1	0.2	75.0	0.5	76.2	0.3	78.1	0.2
IIIN	69.6	0.2	71.1	0.4	72.5	0.3	74.4	0.7	75.4	0.3	77.1	0.3
IIIM	70.0	0.3	70.0	0.0	71.7	0.3	72.7	0.2	73.9	0.3	75.0	0.3
IV	68.4	0.1	69.1	0.3	71.0	0.3	70.9	0.3	73.0	0.4	73.7	0.3
V	66.7	0.2	67.5	0.3	67.8	0.1	68.6	0.4	68.9	0.4	71.6	0.6
All men	69.3	0.2	70.1	0.1	71.7	0.2	72.7	0.3	74.1	0.3	75.5	0.1
GAD equivalent[1]	69.5		70.4		71.8		72.8		74.0		75.3	
At age 65												
I	14.0	–0.2	15.5	0.1	15.5	0.1	15.8	0.0	17.0	0.2	18.3	0.0
II	13.3	0.0	14.2	0.0	14.4	0.1	15.0	0.1	15.7	0.1	17.2	0.1
IIIN	12.6	–0.1	13.3	0.0	13.6	–0.1	14.3	0.2	15.4	0.2	16.7	0.1
IIIM	12.2	0.0	12.5	–0.1	13.0	0.0	13.6	0.1	14.4	0.2	15.3	0.1
IV	12.3	0.0	12.1	0.0	12.6	0.0	12.8	0.0	14.1	0.2	14.3	0.1
V	11.6	–0.1	11.8	–0.1	11.5	–0.1	12.0	0.1	12.9	0.2	13.5	0.2
All men	12.3	0.0	12.6	–0.1	13.1	0.0	13.6	0.1	14.7	0.1	15.7	0.0
GAD equivalent[1]	12.4		12.8		13.3		14.0		14.6		15.5	
Females												
At birth												
I	79.0	–0.1	80.1	0.1	80.7	0.4	81.1	0.3	83.8	0.6	82.7	0.5
II	77.1	0.2	78.4	0.2	78.8	0.3	80.7	0.6	81.5	0.4	82.0	0.3
IIIN	78.3	0.3	78.2	0.1	79.0	0.4	80.0	0.7	80.8	0.4	81.6	0.3
IIIM	75.2	0.2	76.3	0.2	77.3	0.1	77.9	0.2	79.2	0.4	79.5	0.3
IV	75.4	0.3	76.0	–0.1	77.5	0.2	77.4	0.3	78.2	0.5	79.0	0.4
V	74.2	0.4	75.6	0.8	75.9	0.6	76.6	0.3	77.5	0.4	78.1	0.5
All women	75.3	0.1	76.5	0.1	77.4	0.2	78.3	0.3	79.4	0.3	80.2	0.1
GAD equivalent[1]	75.7		76.5		77.6		78.4		79.3		80.1	
At age 65												
I	19.1	–0.3	20.0	0.0	18.8	0.2	19.0	0.2	21.3	0.4	20.8	0.2
II	17.2	0.1	17.8	0.0	18.2	0.2	19.1	0.3	19.8	0.3	20.2	0.2
IIIN	17.9	0.1	17.7	0.1	18.2	0.2	18.7	0.3	19.2	0.2	19.9	0.1
IIIM	16.4	0.0	16.9	0.0	16.9	0.1	17.2	0.2	18.2	0.2	18.3	0.2
IV	16.9	0.1	16.8	0.1	17.5	0.1	17.3	0.3	17.5	0.3	18.0	0.2
V	16.6	0.2	16.3	0.0	16.2	0.1	16.3	0.3	16.8	0.2	17.1	0.2
All women	16.3	0.0	16.7	0.0	17.0	0.1	17.5	0.2	18.3	0.2	18.8	0.0
GAD equivalent[1]	16.3		16.8		17.3		17.8		18.2		18.8	

1 The GAD figures relate to interim life tables for a three year period centred on the same year as the middle of the equivalent LS five year period.

Source: ONS Longitudinal Study, Government Actuary's Department

2. Extension of the rules for general exclusions

As explained in the Methods section, members with certain types of LS history are excluded. This is to minimise bias which might occur if members with very limited census records and no evidence of death or emigration are included in the analysis. The availability of 2001 Census information meant that the rules for exclusion could be refined and extended to accommodate the fourth census point, in a way that was consistent with previous analyses. For example, those missing a single census could be included if they were subsequently recorded at a later one.

Impact of extending the exclusion rules

In general, 2001 Census information, in combination with newly derived variables that identify different LS statuses at different periods, made it possible to include more LS members in the analysis. The impact on life expectancy estimates is shown in Table 4, discussed below.

3. Use of Health authority deregistration data to estimate 'unobserved emigration'

Unrecorded emigration can lead to underestimation of mortality rates, as described in Box two.

LS information on migration comes from NHSCR. This relies on people notifying their doctor or health authority that they are emigrating. Exit from the LS is recorded when there is confirmation of emigration.[9] Since there is little incentive for emigrants to inform their doctor, it is generally believed that the NHSCR, (and therefore the LS), understates the true level of emigration, though to what extent is not known. An indication is

Box two

Loss to follow up and members unaccounted for at Census

The LS sample at the time of a census can be projected forward using entries (birth and immigrations of people with LS dates of birth) and exits (deaths and embarkations). This becomes the population 'expected' at the next census. This study population can be compared with the number actually found at subsequent censuses. These comparisons are described in detail in *Longitudinal Study 1971–2001: Completeness of Census Linkage* (Series LS no 10).[8]

Members who were unaccounted for at the 2001 Census can be divided into three main groups:

- LS members who had emigrated but for whom there was no embarkation record (unobserved embarkation)
- LS members present in England and Wales but not enumerated at the 2001 Census (census under-enumeration)
- LS members present in England and Wales and enumerated at the 2001 Census, but for whom there was linkage failure as a result of inconsistencies in the recording of date of birth or other linking information (attrition)

For the first of these groups, any deaths are unlikely to be recorded in the LS. These members should therefore be excluded from the study population 'at risk'. Deaths occurring to members of the other two groups are likely to be recorded even though their 2001 Census record had not been linked. The latter should therefore be included in the study population 'at risk'. The difficulty is distinguishing people who have unrecorded embarkations from other members with no linked 2001 Census record.

The objective therefore of this new methodology is to apply a system of exclusion (or 'censoring') from the analysis which achieves the following:
1. Excludes only those members unaccounted for in 2001 who have emigrated and **not** those unaccounted for owing to enumeration or linkage failure.
2. Applies time, age and sex distributions for these exclusions which are empirically based and facilitates the estimation of more accurate age- and sex-specific mortality rates over time.

provided by comparison with the annual national estimates of emigration produced from the ONS International Passenger Survey (IPS).[13] Like the LS, the IPS is also sample-based and subject to sampling error.

Figure 1 shows that recording of embarkations in the LS has mostly been lower than IPS estimates of out-migration. The ratio of LS to IPS estimation of emigration was higher for the 1970s than the 1980s and 1990s. In the 1970s the ratio of LS to IPS emigration estimates averaged 0.64 for males and females considered together, compared with 1980s and 1990s averages of 0.42 and 0.38 respectively. Figure 1 also suggests that recording of emigration in the LS is lower relative to the IPS for males than for females.

Previous life expectancy estimates, for example those published in 2006,[3] adjusted for unobserved migration by weighting population denominators by age group and social class for the 1990s, based on assumptions involving the relationship between the LS and IPS figures. This was not specific to individual members and assumed a constant rate of

Figure 1 Ratio of emigration estimates as measured by the Longitudinal Study and the International Passenger Survey, 1975–2001

Source ONS: International Passenger Survey, Longitudinal Study

unrecorded emigration over the period 1991–2001. The new method uses a newly available source of data on health authority deregistrations which has been linked to LS records. This allows empirically based estimation of departure dates of individual LS members and their excludsion from the analysis from the date of assumed departure.

In addition to the occasions where NHSCR is directly notified of emigration, the cancellation of a health authority registration can occur if a person has not consulted a GP for at least three years if aged under 75, or 12 months if aged 75 or over.[9] This should result in a letter being sent to the patient's last known address and if they do not reply, they may be cancelled from the doctor's list after a six month period. Unless an embarkation notification is received or the person re-registers with another GP, the patient remains deregistered. If a subsequent embarkation occurs, then the LS is updated accordingly. Alternatively, if the person registers with another health authority, the cancellation effectively ends.

While adherence to this procedure is acknowledged to vary between practices and health areas,[14] where a registration remains cancelled for a substantial period, there is a high probability that the person has actually left England and Wales, even if no embarkation is recorded against that patient. If this hypothesis were true, the number of deregistrations which are not reactivated within a given period could be used to estimate unobserved emigration in the LS. This was tested by examining the likelihood of deregistered LS members not being found at the 2001 Census. (see Appendix).

Relationship between date of deregistration and assumed emigration
Owing to the period of non-contact before health authorities deregister a patient, it is appropriate to assume a time lag between the LS member 'emigrating' and the date of the deregistration. This is significant in the context of survival analysis because the individual ceases to be at risk from the date of their departure. The three-year minimum period of non-contact referred to above suggests a lag of three years. However, the appropriate length of lag may also be derived empirically. The investigation, described in the Appendix, suggests that it is reasonable to assume that LS members ceased to be at risk for the year prior to their health authority deregistration.

Many deregistrations are followed within weeks or months by a re-posting to a new health authority. The distribution of time periods between a deregistration record and re-posting to a health authority, (including those for which there is no record of re-posting), can be examined to estimate the length of time after cancellation from which it may be assumed that imminent re-posting is unlikely.

Figure 2 shows the percentage of health authority deregistrations that remain cancelled after a given number of years. Approximately 30 per cent are re-registered to another status within a year. Among those still deregistered after one year, there is a probability of .78 (.55/.705) of the deregistration lasting at least 10 years. It was therefore decided to count only deregistrations lasting more than one year as probable unobserved emigration.

Health authority registrations for Scotland and Northern Ireland

The LS records deaths occurring to members who have moved to Scotland and so LS members registered with a Scottish health authority were included within the population at risk. However, deaths to LS members in Northern Ireland are not notified to the LS and so members registered with a Northern Ireland health authority were considered to be not at risk from the date of their deregistration.

Numbers of health authority deregistrations in relation to known emigration and those unaccounted for at the 2001 Census

Health authority deregistrations were found to account for 26 per cent of LS members who were not known to have died or embarked but were not found at the 2001 Census. This varied by age and sex, with 45.9 per cent of women aged 45–49 who were unaccounted for, having a health authority deregistration compared with 29.8 per cent of men aged 50–54 years (Table 3). Generally, health authority deregistration accounted for a higher proportion of those missing amongst immigrants (53.1 per cent of those not found in 2001), than among either LS members who entered the Study at a census (17.7 per cent) or who entered at birth (9.7 per cent). However, LS members who entered as immigrants but were not found at any census are dropped from the analysis under existing rules for inclusion, and thus deregistration has no net impact on the results for this group.

Figure 2 **Health authority deregistrations by duration**

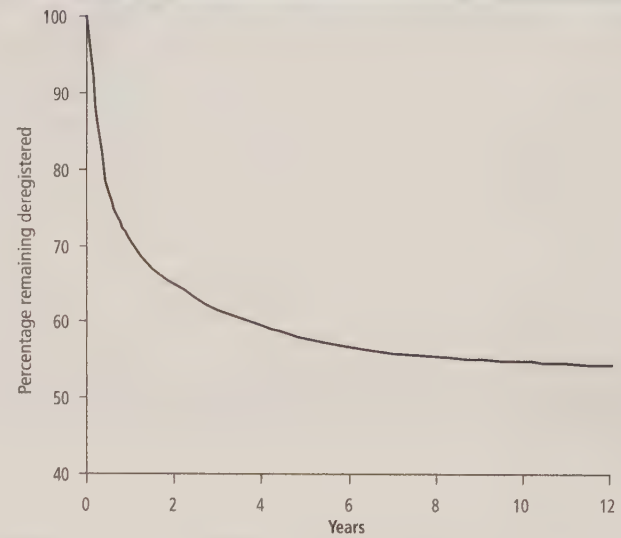

Table 3 **LS members unaccounted for at 2001 Census and those with health authority deregistrations compared with LS recorded emigration between the 1991 and 2001 Censuses**

England and Wales

	Males				Females			
	Unaccounted for at Census	Health authority deregistrations	Percentage	LS recorded embarkations 1991–2001	Unaccounted for at Census	Health authority deregistrations	Percentage	LS recorded embarkations 1991–2001
Age in 2001								
0–4	2,361	122	*5.2*	56	2,271	136	*6.0*	58
5–9	3,087	341	*11.0*	201	2,990	341	*11.4*	188
10–14	3,399	563	*16.6*	256	3,405	520	*15.3*	236
15–19	3,710	580	*15.6*	162	3,544	561	*15.8*	144
20–24	6,312	941	*14.9*	147	5,868	1,283	*21.9*	214
25–29	9,036	1,613	*17.9*	208	7,957	2,622	*33.0*	467
30–34	10,150	1,874	*18.5*	356	8,243	3,104	*37.7*	658
35–39	9,262	1,871	*20.2*	412	7,516	2,953	*39.3*	561
40–44	7,932	1,840	*23.2*	406	6,446	2,784	*43.2*	388
45–49	6,701	1,831	*27.3*	281	5,683	2,607	*45.9*	237
50–54	5,694	1,699	*29.8*	187	4,947	2,242	*45.3*	174
55–59	4,104	1,133	*27.6*	149	3,665	1,373	*37.5*	127
60–64	3,103	779	*25.1*	113	2,809	926	*33.0*	129
65–69	2,455	624	*25.4*	152	2,442	702	*28.7*	118
70–74	1,843	436	*23.7*	142	2,165	509	*23.5*	94
75–79	1,559	391	*25.1*	48	1,944	430	*22.1*	41
80–84	1,131	322	*28.5*	30	1,630	331	*20.3*	49
85+	1,946	719	*36.9*	31	3,384	982	*29.0*	46
Total	83,785	17,679	*21.1*	3,337	76,909	24,406	*31.7*	3,929

Source: ONS Longitudinal Study, NHSCR

Impact of using health authority deregistrations and information from the 2001 Census to approximate unrecorded emigration

There is a substantial overlap in the effects of using health authority deregistration (as a proxy for unrecorded emigration) and extending the rules for exclusion to 2001 (to omit records with sparse LS histories). Both methods tend to identify the same records for exclusion and thus provide cross-validation. In the analysis, 91 per cent of records containing a health authority deregistration were also excluded when the extended exclusion rules were applied.

The impact of both adjustments is shown by comparing Tables 2 and 4. Table 4 shows the final estimates incorporating all the changes described, while Table 2 reflects only the computational changes on a fixed sample as discussed above. For both men and women there was a net reduction of 0.2 years in the estimates of life expectancy at birth for the period 1997–2001 between Table 2 and Table 4. Most of this difference is attributable to the revised exclusion rules. The effect of using health authority deregistrations is marginal, given the prior application of the revised exclusion rules.

The estimates in Table 4 show a close proximity of the aggregate results for males and females to those of the Government Actuary's Department.[11]

Table 4 **Estimated life expectancy by social class at birth and age 65 resulting from censoring based on health authority deregistrations (incorporating technical changes to the estimation methods as per Table 2)[1]**

England and Wales

Social Class	Year											
	1972–76		1977–81		1982–86		1987–91		1992–96		1997–2001	
	Revised life expectancy	Change from published	Revised life expectancy	Change from published	Revised life expectancy	Change from published	Revised life expectancy	Change from published	Revised life expectancy	Change from published	Revised life expectancy	Change from published
Males												
At birth												
I	71.9	0.0	74.4	0.0	75.1	–0.1	76.2	–0.4	78.0	0.4	79.6	0.2
II	71.9	0.2	72.6	0.2	74.1	0.3	75.0	0.5	76.1	0.1	77.9	0.1
IIIN	69.5	0.2	71.1	0.4	72.5	0.3	74.4	0.7	75.2	0.2	77.0	0.2
IIIM	70.0	0.3	70.0	0.0	71.7	0.3	72.7	0.2	73.8	0.2	74.8	0.2
IV	68.3	0.0	69.0	0.2	71.0	0.3	70.9	0.3	72.8	0.2	73.5	0.2
V	66.5	0.1	67.4	0.3	67.8	0.1	68.6	0.4	68.6	0.1	71.2	0.2
All men	69.3	0.2	70.1	0.1	71.7	0.2	72.6	0.3	73.9	0.1	75.3	–0.1
GAD equivalent[2]	*69.5*		*70.4*		*71.8*		*72.8*		*74.0*		*75.3*	
At age 65												
I	14.0	–0.2	15.5	0.1	15.5	0.1	15.8	0.0	17.0	0.2	18.3	0.0
II	13.3	0.0	14.2	0.0	14.5	0.1	15.0	0.1	15.7	0.1	17.1	0.0
IIIN	12.6	0.0	13.3	0.0	13.6	0.0	14.3	0.2	15.4	0.2	16.7	0.0
IIIM	12.2	0.0	12.5	–0.1	13.1	0.1	13.6	0.2	14.3	0.1	15.2	0.0
IV	12.2	0.0	12.1	0.0	12.7	0.0	12.8	0.1	13.9	0.0	14.1	0.0
V	11.6	0.0	11.8	–0.1	11.6	–0.1	12.0	0.2	12.6	–0.1	13.3	–0.1
All men	12.3	0.0	12.6	–0.1	13.1	0.0	13.7	0.1	14.5	0.0	15.6	–0.1
GAD equivalent[2]	*12.4*		*12.8*		*13.3*		*14.0*		*14.6*		*15.5*	
Females												
At birth												
I	79.0	0.0	80.1	0.1	80.7	0.4	81.1	0.3	83.7	0.5	82.5	0.4
II	77.1	0.2	78.4	0.2	78.8	0.3	80.7	0.5	81.4	0.2	81.9	0.1
IIIN	78.3	0.3	78.2	0.1	79.0	0.4	80.0	0.6	80.7	0.3	81.5	0.2
IIIM	75.2	0.1	76.3	0.2	77.3	0.1	77.9	0.2	79.1	0.3	79.4	0.1
IV	75.4	0.3	75.9	–0.2	77.5	0.2	77.4	0.3	78.1	0.4	78.9	0.3
V	74.2	0.4	75.6	0.8	75.9	0.6	76.6	0.3	77.4	0.4	77.9	0.3
All women	75.3	0.1	76.5	0.1	77.4	0.2	78.3	0.3	79.3	0.2	80.0	0.0
GAD equivalent[2]	*75.7*		*76.5*		*77.6*		*78.4*		*79.3*		*80.1*	
At age 65												
I	19.1	–0.3	20.0	0.1	18.8	0.3	19.0	0.3	21.1	0.2	20.7	0.1
II	17.2	0.1	17.8	0.0	18.2	0.2	19.2	0.3	19.7	0.2	20.1	0.0
IIIN	17.9	0.1	17.7	0.1	18.2	0.2	18.7	0.3	19.2	0.2	19.8	0.0
IIIM	16.4	0.0	16.9	0.0	16.9	0.1	17.2	0.2	18.1	0.1	18.2	0.0
IV	16.9	0.1	16.8	0.1	17.5	0.1	17.3	0.3	17.4	0.2	17.9	0.1
V	16.6	0.2	16.4	0.1	16.2	0.1	16.4	0.3	16.6	0.1	16.9	0.0
All women	16.3	0.0	16.7	0.0	17.0	0.1	17.5	0.2	18.1	0.1	18.7	–0.1
GAD equivalent[2]	*16.3*		*16.8*		*17.3*		*17.8*		*18.2*		*18.7*	

1 The figures in this table are presented to illustrate the effect of the new methods and data on the existing estimates for the period up to 2001. Updated estimates for the periods 1972–76 to 2001–05, will be published on the National Statistics website later in 2007.

2 The GAD figures relate to interim life tables for a three year period centred on the same year as the middle of the equivalent LS five year period.

Source: ONS Longitudinal Study, Government Actuary's Department

Discussion

This work has revisited the calculation of life expectancy by social class and undertaken several methodological changes.

Overall the indications as to health inequalities and their trends are unchanged. The new estimates are consistent with those of Donkin *et al*[2] and the most recent ONS published figures.[3] There were significant social inequalities in life expectancy, whether measured by the difference between Social Classes I and V or between manual and non-manual classes. This analysis also found a small reduction in estimated life expectancy for females in Social Class I between 1992–96 and 1997–2001 (1997–99 in the case of Donkin *et al*) but there was no evidence of a general reduction in inequality in this period.

There are several mechanisms in the LS for taking account of unobserved embarkations. For example, excluding those who were expected but not present at more than one census. The analyses undertaken here show a strong relationship between those excluded because of health authority deregistrations and those with sparse LS records. In particular, a substantial proportion of those with health authority deregistrations were immigrants. For these reasons, the use of health authority deregistrations has a very limited effect on life expectancy calculations, but does provide a method of validation of existing methods of exclusion.

For studies at NHSCR that do not have the benefit of census follow-up, the methods described here provide a partial adjustment for unrecorded emigration. Similarly, health authority deregistrations will provide a valuable contribution to checking the completeness and quality of census enumeration and linkage.

Health authority deregistrations do not explain all of those unaccounted for at the 2001 Census. Only about a fifth of missing males and one-third of missing females have health authority deregistrations. Despite the shortfall, these new data do fill some of the information gap in the LS relating to those unaccounted for. The new methods meet the objectives set out in Box two in that they are empirically based and apply to specific LS members from specific dates. In this sense they are preferable to the previous method of adjustment which relied on aggregate weighting of social classes and had a less defined conceptual basis.

It is therefore recommended that this method be adopted for future LS analysis of life expectancy by social class.

An interesting finding of this analysis is that a high proportion of health authority deregistrations occur on the records of immigrants. Use of deregistrations for censoring could be more effective in tackling the high levels of loss to follow up that hamper studies of mortality by country of birth.

Arguably, the general sample exclusions such as immigrants not present at a census and those with 'sparse' LS records (missing two consecutive censuses where they would have been expected to be present), are becoming less appropriate as the level of in and out migration increases. This may engender bias by tendency to exclude transient and mobile populations. To some extent this cannot be avoided, since, for example, immigrants who have not been present at a census cannot be assigned a social class. The development of the work on deregistrations could enable a more refined approach for frequent migrants.

Use of social class as a continuing measure of inequality

In focusing on the problem of losses to follow up, the work reported in this article has aimed for maximum continuity in the method of assignment of social class with Donkin et al[2] and earlier ONS publications, in order to avoid confounding the results. However, there are many methods of assigning social class and different methods may produce different results in terms of trends in inequality. Work is in progress to test the impact of different approaches to the assignment of social class, including using a primacy rule to attribute class to households rather than individuals, and a dynamic attribution to reflect the impact of social mobility through the lifecourse.

Criticisms of Registrar General's Social Class as being inappropriate to the classification of a modern labour force have led to the development of NS-SEC, which has become the official socio-economic classification for ONS. NS-SEC was coded for the first time at a census in 2001 and an approximation has been derived for the 1991 Census. Work is in progress to investigate the possibilities for calculating life expectancy by NS-SEC.

Key findings

Following this review of methods and data used to estimate life expectancy by social class using the LS, it is proposed that the following changes be introduced as a basis for updating the series:

- implementation of the technical and computational changes to lifetable construction outlined
- use of updated tracing information at NHSCR to increase the proportion of LS members in the study assigned a social class
- extension of rules for exclusion to incorporate information from the 2001 Census
- use of NHSCR health authority deregistration information, linked to the Longitudinal Study, as a proxy for unrecorded emigration. This helps to fill a known and documented information gap and is particularly useful for informing censoring strategies in survival analysis

Despite the use of new methods and data, the results are very similar to previously published ones.

Conclusions

The new methods and data produced small changes in results, but the overall conclusions of earlier ONS publications are not altered.

The availability of new information on tracing, presence at 2001 Census and health authority deregistrations, have allowed the refinement of methods for calculating life expectancy by social class.

The purely technical changes, such as the switch to a more precise program for allocating person years and deaths by age group, make small differences to the results but provide both increased accuracy and a better template for producing new results.

The health authority deregistrations do not explain 100 per cent of loss to follow-up, but still represent an improvement over former methods of adjusting for unobserved emigration.

It would be useful to add a new variable, corresponding to 'deregistration dates' on NHSCR, to the LS. This would allow censoring of those members no longer at risk, and could be used in mortality calculations when losses to follow up are a substantial factor.

The work reported in this article forms the basis for updating the current series to 2005.

Future developments

This series will be updated with a four-year period 2002–05 using the new data and methods by September 2007. This will afford an opportunity to determine whether there is any evidence for changes in the trends in inequality.

Work on different methods for attributing social class will allow analysis of the sensitivity of these estimates to individual versus household-based and static versus dynamic social class attribution.

Acknowledgement

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Appendix

Appropriate lag assumption for time between emigration and date of deregistration

In using health authority deregistrations as a proxy for emigration, varying assumptions can be made about the length of time that lapses between emigration and deregistration. If both happened simultaneously (0 year lag), then the LS member would cease to be present from the date of their deregistration. The validity of this assumption was tested by calculating the percentage of the LS members who were deregistered on or before census day 2001 who were found in the Census. Table A1 shows that 95 per cent of those deregistered on or before 29 April 2001 were not found at the Census. Assuming a one year lag between emigration and deregistration suggests that LS members who were deregistered on or before 29 April 2002 would not have been found at the 2001 Census. Relaxing the assumption in this way does not substantially diminish the use of deregistration as a proxy for emigration, since 94 per cent of LS members deregistered by April 2002 were not found at the 2001 Census. The assumption of two and three year lags reduces the percentage not found at the Census to 92 and 90 per cent respectively. For the purpose of calculating person-years at risk, it was decided to assume a one-year lag. An exception was if the individual had a health authority posting within that period, they were assumed to be present up to the date of that registration.

Table A1 **Probability of not being found at the 2001 Census - LS members with health authority deregistrations**

LS members with health authority deregistration consistent with absence at 2001 Census date, under different time lag assumptions

Length of lag:	Deregistered by:	Expected at 2001 Census	Found at 2001 Census	Percentage not found
0 years	29 April 2001	41,034	2,101	*95*
1 year	29 April 2002	45,016	2,890	*94*
2 years	29 April 2003	48,762	3,897	*92*
3 years	29 April 2004	52,487	5,029	*90*

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Symbols

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Notes to tables

Time series
For most tables, years start at 1971 and then continue at five-year intervals until 1991. Individual years are shown thereafter. If a year is not present the data are not available.

United Kingdom
The United Kingdom comprises England, Wales, Scotland and Northern Ireland. The Channel Islands and the Isle of Man are not part of the United Kingdom.

Population
The estimated resident population of an area includes all people who usually live there, whatever their nationality. Members of HM and US Armed Forces in England and Wales are included on residential basis wherever possible. HM Forces stationed outside England and Wales are not included. Students are taken to be resident at their term time addresses.

Further information on population estimates can be found on the National Statistics website at www.statistics.gov.uk/popest

Live births
For England and Wales, figures relate to the number of births occurring in a period; for Scotland and Northern Ireland, figures relate to births registered in a period. By law, births must be registered within 42 days in England and Wales, within 21 days in Scotland, and within 42 days in Northern Ireland. In England and Wales, where a birth is registered later than the legal time period, and too late to be included in the count for the year of occurrence, it will be included in the count for the following year.

Perinatal mortality
In October 1992 the legal definition of a stillbirth was changed, from a baby born dead after 28 completed weeks of gestation or more, to one born dead after 24 completed weeks of gestation or more.

Period expectation of life
The life tables on which these expectations are based use death rates for the given period to describe mortality levels for each year. Each individual year shown is based on a three-year period, so that for instance 1986 represents 1985–87. More details can be found at www.gad.gov.uk/life_tables/interim_life_tables.htm

Deaths
Figures for England and Wales relate to the number of deaths registered in each year up to 1992, and the number occurring in each year from 1993, though provisional figures are registrations. Figures for both Scotland and Northern Ireland relate to the number of deaths registered in each year.

Coding cause of death
Between 1 January 1984 and 31 December 1992, ONS applied its own interpretation of the International Classification of Diseases Section Rule 3 in the coding of deaths where terminal events and other 'modes of dying' such as cardiac arrest, cardiac failure, certain thrombembolic disorders, and unspecified pneumonia and bronchopneumonia, were stated by the certifier to be the underlying cause of death and other major pathology appeared on the certificate. In these cases ONS Rule 3 allowed the terminal event to be considered a direct sequel to the major pathology and that primary condition was selected as the underlying cause of death. Prior to 1984 and between 1 January 1993 and 31 December 2000, such certificates were coded to the terminal event. National Statistics also introduced automated coding of cause of death in 1993, which may also affect comparisons of deaths by cause from 1993. Further details can be found in the annual volumes Mortality statistics: Cause 1984, Series DH2 no. 11, and Mortality statistics: Cause 1993 (revised) and 1994, Series DH2 no. 21.

From 1 January 2001, under ICD-10, Rule 3 has again been changed – for details see the article in Health Statistics Quarterly no. 13. This has resulted in a fall in the death rates from respiratory diseases, notably pneumonia, and consequently slight rises in the rates for other causes eg. strokes. For details of the major changes between ICD-9 and ICD-10, see the articles in Health Statistics Quarterly 08, 13 and 14.

Age-standardised mortality rates
Directly age-standardised rates make allowances for changes in the age structure of the population. The age-standardised rate for a particular condition is that which would have occurred if the observed age-specific rates for the condition had applied in a given standard population. Tables 2.2 and 6.3 use the European Standard Population. This is a hypothetical population standard which is the same for both males and females allowing standardised rates to be compared for each sex, and between males and females.

Abortions
Figures relate to numbers occurring in a period.

Calculating quarterly rates
The denominators used for calculating quarterly rates for births, conceptions and abortions have been produced from mid-year population estimates and projections by linear interpolation.

Marriages and divorces
Marriages are tabulated according to date of solemnisation. Divorces are tabulated according to date of decree absolute. In Scotland a small number of late divorces from previous years are added to the current year. The term 'divorces' includes decrees of nullity. The fact that a marriage or divorce has taken place in England, Wales, Scotland or Northern Ireland does not necessarily mean that either of the parties is resident there.

Civil Partnerships
The Civil Partnership Act 2004 came into force on 5 December 2005 in the UK, the first day couples could give notice of their intention to form a civil partnership. The first day that couples could normally form a partnership was 19 December 2005 in Northern Ireland, 20 December 2005 in Scotland and 21 December 2005 in England and Wales.

Civil partnerships are tabulated according to date of formation and area of occurrence. The fact that a civil partnership has taken place in England, Wales, Scotland or Northern Ireland does not necessarily mean either of the parties is resident there.

Sources
Figures for Scotland and Northern Ireland have been provided by the General Register Office for Scotland and the Northern Ireland Statistics and Research Agency respectively.

Rounding
All figures are rounded independently; constituent parts may not add to totals. Generally numbers and rates per 1,000 population are rounded to one decimal place (eg 123.4); where appropriate, for small figures (below 10.0), two decimal places are given (eg 7.62). Figures which are provisional or estimated are given in less detail (eg 123 or 7.6 respectively) if their reliability does not justify giving the standard amount of detail. Where figures need to be treated with particular caution, an explanation is given as a footnote.

Latest figures
Figures for the latest quarters and years may be provisional and will be updated in future issues when later information becomes available. Where figures are not yet available, cells are left blank.

Table 1.1 Population and vital rates: international

Selected countries

Numbers (thousands)/Rates per thousand

Year	United Kingdom	Austria	Belgium	Cyprus[1]	Czech Republic	Denmark	Estonia	Finland	France	Germany[2]	Greece[3]	Hungary	Irish Republic
Population (thousands)													
1971	55,928	7,501	9,673	..	9,810	4,963	1,369	4,612	51,251	78,313	8,831	10,370	2,992
1976	56,216	7,566	9,818	498	10,094	5,073	1,435	4,726	52,909	78,337	9,167	10,590	3,238
1981	56,357	7,569	9,859	515	10,293	5,121	1,482	4,800	54,182	78,408	9,729	10,712	3,443
1986	56,684	7,588	9,862	545	10,340	5,120	1,534	4,918	55,547	77,720	9,967	10,631	3,543
1991	57,439	7,813	9,979	587	10,309	5,154	1,566	5,014	57,055	79,984	10,247	10,346	3,526
1996	58,164	7,959	10,137	661 [12]	10,315	5,262	1,416	5,125	58,026	81,896	10,709	10,193	3,626 [18]
2001	59,113	8,043	10,287	701 [12]	10,224	5,359	1,364	5,188	59,322	82,340	10,950	10,188	3,839 [18]
2002	59,322	8,084	10,333	710 [12]	10,201	5,374	1,359	5,201	59,678	82,482	10,988	10,159	3,917 [18]
2003	59,554	8,118	10,376	721 [12]	10,202	5,387	1,354	5,213	60,028	82,520	11,024	10,130	3,996 [18]
2004	59,834	8,175	10,421	737 [12]	10,207	5,401	1,349	5,228	60,381	82,501	11,062	10,107	4,044 [18]
2005	60,209	8,207 [17,P]	10,446 [17,P]	760 [12]	10,240 [P]	5,411 [P]	1,350 [P]	5,250 [P]	60,870 [P]	82,470 [P]	11,083 [17,P]	10,080 [P]	4,130 [18,P]
2006	..	8,266 [17,P]	10,511 [17,P]	766 [12]	10,251 [17,P]	5,427 [17,P]	1,345 [17,P]	5,256 [17,P]	62,886 [17,P]	82,438 [17,P]	11,125 [17,P]	10,077 [17,P]	..
Population changes (per 1,000 per annum)													
1971–76	1.0	1.7	3.0	..	5.8	4.4	9.6	4.9	6.5	0.1	7.6	4.2	16.4
1976–81	0.5	0.1	0.8	6.8	3.9	1.9	6.6	3.1	4.8	0.2	12.3	2.3	12.7
1981–86	1.2	0.5	0.1	11.7	0.9	0.0	7.0	4.9	5.0	–1.8	4.9	–1.5	5.8
1986–91	2.7	5.9	2.4	15.4	–0.6	1.3	4.2	3.9	5.4	5.8	5.6	–5.4	–1.0
1991–96	2.5	3.7	3.6	25.2	0.1	4.2	–12.4	3.8	3.4	4.8	9.0	–3.0	4.3
1996–01	3.3	2.1	2.6	12.1	–1.8	3.7	–7.3	2.5	4.5	1.1	4.5	–0.1	11.7
2001–02	3.5	5.1	4.5	12.8	–2.2	2.8	–3.7	2.5	6.0	1.7	4.4	–2.8	20.3
2002–03	3.9	4.2	4.2	15.5	0.1	2.4	–3.7	2.3	5.9	0.5	2.4	–2.9	20.2
2003–04	4.7	7.0	4.3	22.2	0.5	2.6	–3.7	2.9	5.9	–0.2	3.4	–2.3	12.0
2004–05	6.3	3.9	2.4	31.2	3.2	1.9	–0.7	4.2	8.1	–0.4	1.9	–2.7	21.3
2005–06	..	7.2	6.2	7.9	1.1	3.0	–3.7	1.1	33.1	–0.4	3.8	–0.3	..
Live birth rate (per 1,000 population per annum)													
1971–75	14.1	13.3	13.4	17.7	17.8	14.6	15.4	13.1	16.0	10.5	15.8	16.1	22.2
1976–80	12.5	11.5	12.5	19.0	17.1	12.0	15.0	13.6	14.1	10.5	15.6	15.8	21.3
1981–85	12.9	12.0	12.0	20.2	13.5	10.2	15.6	13.4	14.2	10.7	13.3	12.3	19.2
1986–90	13.7	11.6	12.1	18.8	12.7	11.5	15.5	12.7	13.8	9.8	10.6	11.8	15.8
1991–95	13.2	11.8	12.0	16.9	11.1	13.1	10.7	12.9	12.7	10.9	9.9	11.7	14.0
1996–00	12.0	10.2	11.2	13.2	8.8	12.6	8.9	11.3	12.7	9.6	10.2	9.8	14.2
2001	11.3	9.4	11.1	11.6	8.9	12.2	9.3	10.8	13.0	8.9	10.2	9.5	15.1
2002	11.3	9.7	10.8	11.1	9.6	11.9	9.6	10.7	12.8	8.7	9.5	9.5	15.5
2003	11.7	9.5	10.9	11.2	9.2	12.0	9.6	10.9	12.7	8.6	9.5	9.3	15.4
2004	12.1	9.7	11.1	11.3	9.6	11.9	10.4	11.4	12.7	8.6	9.5	9.4	15.3
2005	12.0	9.5	11.2	10.9	10.0	11.9	10.7	11.0	12.7	8.3	9.7	9.7	14.8
2006	12.4 [P]	..	..	..	..	..	..	11.2	..	..	..	..	..
Death rate (per 1,000 population per annum)													
1971–75	11.8	12.6	12.1	9.9	12.4	10.1	11.1	9.5	10.7	12.3	8.6	11.9	11.0
1976–80	11.9	12.3	11.6	10.4	12.5	10.5	12.1	9.3	10.2	12.2	8.8	12.9	10.2
1981–85	11.7	12.0	11.4	10.0	12.8	11.1	12.3	9.3	10.1	12.0	9.0	13.7	9.4
1986–90	11.4	11.1	10.8	10.2	12.4	11.5	11.9	9.8	9.5	11.6	9.3	13.5	9.1
1991–95	11.1	10.4	10.4	9.0	11.6	11.9	13.9	9.8	9.1	10.8	9.5	14.3	8.8
1996–00	10.6	9.7	10.3	7.7	10.8	11.2	13.1	9.6	9.2	10.4	9.7	13.9	8.5
2001	10.2	9.3	10.1	6.9	10.5	10.9	13.6	9.4	9.0	10.1	9.4	13.0	7.9
2002	10.2	9.4	10.2	7.3	10.6	10.9	13.5	9.5	9.2	10.2	9.5	13.1	7.5
2003	10.3	9.5	10.4	7.2	10.9	10.7	13.4	9.4	9.4	10.3	9.6	13.4	7.2
2004	9.7	9.1	9.8	7.1	10.5	10.3	13.2	9.1	8.4	10.0	..	13.1	7.0
2005	9.7	9.1	..	7.2	10.6	10.2	12.9	9.1	8.6	10.1	..	13.5	6.6
2006	9.5 [P]	..	..	..	..	..	..	9.1	..	..	..	..	..

Note:
Estimated population (mid-year), live birth and death rates up to the latest available data, as given in the *United Nations Monthly Bulletin of Statistics (May 2007), the United Nations Demographic Yearbook system*, and the *Eurostat Yearbook 2006 (May 2007).*

1 Republic of Cyprus - Greek Cypriot controlled area only
2 Including former GDR throughout.
3 Greece - mid-year population excludes armed forces stationed outside the country but includes alien forces stationed in the area.
4 Malta - including work and resident permit holders and foreigners residing in Malta.
5 Poland - excluding civilian aliens within the country but including civilian nationals temporarily outside the country. Average year data for 2000 and 2001 contain revised data according to the final results of the population census 2002.
6 Portugal - including the Azores and Madeira islands.
7 Spain - including the Balearic and Canary Islands.
8 The European Union consists of 25 member countries (EU25) - 1 May 2004 (10 new member countries).
9 Including the Indian held part of Jammu and Kashmir, the final status of which has not yet been determined.
10 Japan - excluding diplomatic personnel outside the country and foreign military and civilian personnel and their dependants stationed in the area. Rates are based on births to or deaths of Japanese nationals only.
11 USA - excluding armed forces overseas and civilian citizens absent from the country for extended periods.
12 Indicates population estimates of uncertain reliability.
13 Figures were updated taking into account the results of the 2002 All Russian Population Census.
14 Mid-year estimates have been adjusted for under-enumeration.
15 For statistical purposes the data for China do not include those for the Hong Kong SAR, Macao SAR and Taiwan province of China. Data for the period 1996 to 2000 have been adjusted on the basis of the Population Census of 2000. Data from 2001 to 2004 have been estimated on the basis of the annual national sample surveys of Population Changes. Estimate of uncertain reliability. Death rates for 1999–2003 and birth rates for 2000–2003 were obtained by the Sample Survey of Population Change 2003 in China.
16 Rate is for 1990–1995.
17 As at 1 January - Eurostat Yearbook 2006 (May 2007).
18 Data refer to 15 April.
p provisional.

Table 1.1 continued **Population and vital rates: international**

Selected countries

Numbers (thousands)/Rates per thousand

Year	United Kingdom	Italy	Latvia	Lithuania	Luxem–bourg	Malta[4]	Nether–lands	Poland[5]	Portugal[6]	Slovakia	Slovenia	Spain[7]	Sweden	EU–25[8]
Population (thousands)														
1971	55,928	54,073	2,366	3,160	342	330	13,194	32,800	8,644	4,540	1,732	34,216	8,098	..
1976	56,216	55,718	2,465	3,315	361	330	13,774	34,360	9,356	4,764	1,809	36,118	8,222	420,258
1981	56,357	56,502	2,515	3,422	365	322	14,247	35,902	9,851	4,996	1,910	37,741	8,320	428,563
1986	56,684	56,596	2,588	3,560	368	344	14,572	37,456	10,011	5,179	1,975	38,536	8,370	433,555
1991	57,439	56,751	2,662	3,742	387	358	15,070	38,245	9,871	5,283	2,002	38,920	8,617	440,927
1996	58,164	56,860	2,457	3,602	414	380	15,530	38,618	10,058	5,374	1,991	39,479	8,841	447,113
2001	59,113	56,978	2,355	3,481	442	393	16,046	38,251	10,293	5,380	1,992	40,721	8,896	452,146
2002	59,322	57,157	2,339	3,469	446	396	16,149	38,232	10,368	5,379	1,996	41,314	8,925	453,988
2003	59,554	57,605	2,325	3,454	450	399	16,225	38,195	10,441	5,379	1,997	42,005	8,958	456,056
2004	59,834	58,175	2,313	3,436	453	401	16,282	38,180	10,502	5,382	1,997	42,692	8,994	458,254
2005	60,209	58,640[P]	2,306[17,P]	3,410[17,P]	460[P]	403[17,P]	16,320[P]	38,174[17,P]	10,550[P]	5,390[P]	2,000[P]	43,400[17,P]	9,030[P]	460,589[P]
2006	..	58,752[17,P]	2,295[17,P]	3,403[17,P]	460[17,P]	404[17,P]	16,334[17,P]	38,157[17,P]	10,570[17,P]	5,389[17,P]	2,003[17,P]	43,758[17,P]	9,048[17,P]	..
Population changes (per 1,000 per annum)														
1971–76	1.0	6.1	8.4	9.8	10.7	0.0	8.8	9.5	16.5	9.9	8.9	11.1	3.1	..
1976–81	0.5	2.8	4.1	6.5	2.5	– 4.8	6.9	9.0	10.6	9.7	11.2	9.0	2.4	4.0
1981–86	1.2	0.3	5.8	8.1	1.8	13.7	4.6	8.7	3.2	7.3	6.8	4.2	1.2	2.3
1986–91	2.7	0.5	5.7	10.2	10.2	8.1	6.8	4.2	–2.8	4.0	2.7	2.0	5.9	3.4
1991–96	2.5	0.4	–12.8	– 1.7	13.9	8.4	6.1	2.0	3.8	3.4	–1.1	2.9	5.1	2.7
1996–01	3.3	0.4	– 8.3	– 6.7	13.5	6.8	6.6	– 1.9	4.7	0.2	0.1	6.3	1.2	2.3
2001–02	3.5	3.1	– 6.8	– 3.4	9.0	7.6	6.4	– 0.5	7.3	–0.2	2.0	14.6	3.3	4.1
2002–03	3.9	7.8	– 6.0	– 4.3	9.0	7.6	4.7	– 1.0	7.0	0.0	0.5	16.7	3.7	4.6
2003–04	4.7	9.9	– 5.2	– 5.2	6.7	5.0	3.5	– 0.4	5.8	0.6	0.0	16.4	4.0	4.8
2004–05	6.3	8.0	– 3.0	– 7.6	15.5	5.0	2.3	– 0.2	4.6	1.5	1.5	16.6	4.0	5.1
2005–06	..	1.9	– 4.8	– 2.1	0.0	2.5	0.9	– 0.4	1.9	–0.2	1.5	8.2	2.0	..
Live birth rate (per 1,000 population per annum)														
1971–75	14.1	16.0	14.4	16.4	11.6	17.5	14.9	17.9	20.3	19.7	16.4	19.2	13.5	..
1976–80	12.5	12.6	13.9	15.4	11.2	17.0	12.6	19.3	17.9	20.3	16.3	17.1	11.6	..
1981–85	12.9	10.6	15.2	16.0	11.6	15.3	12.2	19.0	14.5	18.0	14.2	12.8	11.3	..
1986–90	13.7	9.8	15.3	15.8	12.2	16.0	12.8	15.5	11.9	15.8	12.3	10.8	13.2	..
1991–95	13.2	9.6	10.8	13.1	13.3	14.0	12.8	12.9	11.4	13.3	10.0	9.8	13.3	..
1996–00	12.0	9.2	8.0	10.4	13.1	12.0	12.6	10.4	11.3	10.7	9.1	9.52	10.2	10.6
2001	11.3	9.2	8.3	9.1	12.4	9.8	12.6	9.6	11.0	9.5	8.8	10.0	10.3	10.4
2002	11.3	9.4	8.6	8.7	12.0	9.6	12.5	9.3	11.0	9.5	8.8	.10.2	10.7	10.3
2003	11.7	9.4	9.0	8.9	11.8	9.8	12.3	9.2	10.8	9.6	8.7	10.5	11.1	..
2004	12.1	9.7	8.8	8.9	11.8	9.7	11.9	9.3	10.4	10.0	9.0	10.6	11.2	..
2005	12.0	9.5	9.4	8.9	11.8	9.6	11.5	9.6	10.4	9.3	9.1	10.7	11.2	..
2006	12.4[P]	..	9.2	..	..	..	11.3	..	..	..	..	..	11.7	..
Death rate (per 1,000 population per annum)														
1971–75	11.8	9.8	11.6	9.0	12.2	9.0	8.3	8.4	11.0	9.4	10.0	8.5	10.5	..
1976–80	11.9	9.7	12.6	10.1	11.5	9.0	8.1	9.2	10.1	9.8	9.8	8.0	10.9	..
1981–85	11.7	9.5	12.8	10.6	11.2	8.2	8.3	9.6	9.6	10.1	10.3	7.7	11.0	..
1986–90	11.4	9.4	12.4	10.3	10.5	7.4	8.5	10.0	9.6	10.1	9.6	8.2	11.1	..
1991–95	11.1	9.7	14.8	12.0	9.8	7.6	8.8	10.2	10.4	9.9	9.7	8.7	10.9	..
1996–00	10.6	9.8	13.9	11.5	9.0	7.7	8.8	9.8	10.5	9.7	9.5	9.1	10.6	10.0
2001	10.2	9.6	14.0	11.6	8.4	7.6	8.7	9.5	10.2	9.7	9.3	8.9	10.5	9.7
2002	10.2	9.8	13.9	11.8	8.4	7.8	8.8	9.4	10.2	9.6	9.4	8.9	10.6	9.8
2003	10.3	10.2	13.9	11.9	9.0	7.7	8.7	9.6	10.4	9.7	9.7	9.2	10.4	..
2004	9.7	9.4	13.9	12.0	7.6	7.2	8.4	9.5	9.7	9.6	9.3	8.2	10.1	..
2005	9.7	9.7	14.2	12.8	8.0	..	8.4	9.7	..	9.9	9.4	8.9	10.2	..
2006	9.5[P]	..	..	13.2	..	..	8.3	..	..	..	..	..	10.0	..

See notes on first page of table.

Table 1.1 continued Population and vital rates: international

Selected countries

Numbers (thousands)/Rates per thousand

Year	United Kingdom	EU–25[8]	Russian Federation	Australia	Canada	New Zealand	China	India[9]	Japan[10]	USA[11]
Population (thousands)										
1971	55,928	..	130,934	13,067	22,026	2,899	852,290 [15]	551,311	105,145	207,661
1976	56,216	420,258	135,027	14,033	23,517	3,163	937,170 [15]	617,248	113,094	218,035
1981	56,357	428,563	139,225	14,923	24,900	3,195	1,008,460 [15]	675,185	117,902	229,958
1986	56,684	433,555	144,154	16,018	26,204	3,317	1,086,733 [15]	767,199	121,672	240,680
1991	57,439	440,927	148,245	17,284	28,031	3,477	1,170,100 [15]	851,897	123,964	252,639
1996	58,164	447,113	148,160[13]	18,311[14]	29,611[14]	3,732	1,217,550 [15]	942,157 [12]	125,757	269,394
2001	59,113	452,146	145,976[13]	19,413[14]	31,021[14]	3,880	1,271,850 [15]	1,035,066 [12]	127,130	285,108
2002	59,322	453,988	145,306 [13]	19,641[14]	31,373[14]	3,939	1,280,400 [15]	1,050,640 [12]	127,400	287,985
2003	59,554	456,056	144,566 [13]	19,873[14]	31,669[14]	4,009	1,288,400 [15]	1,068.214 [12]	127,650	290,850
2004	59,834	458,254	143,821 [13]	20,111[14]	31,974[14]	4,061	1,296,075 [15]	1,085,600 [12]	127,670	293,623
2005	60,209	460,589[P]	143,500 [13]	20,330[14,P]	32,270[14,P]	4,100 [P]	..	1,097,000 [12]	..	296,410
2006	..	..	..	..	..	..	..	..	..	..
Population changes (per 1,000 per annum)										
1971–76	1.0	..	6.3	14.8	13.5	18.2	19.9	23.9	15.1	10.0
1976–81	0.5	4.0	6.2	12.7	11.8	2.0	15.2	18.8	8.5	10.9
1981–86	1.2	2.3	7.1	14.7	10.5	7.6	15.5	27.3	6.4	9.3
1986–91	2.7	3.4	5.7	15.8	13.9	9.6	15.3	22.1	3.8	9.9
1991–96	2.5	2.7	–1.7	11.9	11.3	14.7	10.3	21.1	2.9	12.1
1996–01	3.3	2.3	–2.9	12.0	9.5	7.9	8.9	19.7	2.2	11.7
2001–02	3.5	4.1	– 4.6	11.7	11.3	15.2	6.7	15.0	2.1	10.1
2002–03	3.9	4.6	– 5.1	11.8	9.4	17.8	6.2	16.7	2.0	9.9
2003–04	4.7	4.8	– 5.2	12.0	9.6	13.0	6.0	16.3	0.2	9.5
2004–05	6.3	5.1	– 2.2	10.9	9.3	9.6	..	10.5	..	9.5
2005–06	..	..	..	..	..	..	..	..	..	..
Live birth rate (per 1,000 population per annum)										
1971–75	14.1	..	..	18.8	15.9	20.4	27.2	35.6	18.6	15.3
1976–80	12.5	..	..	15.7	15.5	16.8	18.6	33.4	14.9	15.2
1981–85	12.9	..	..	15.6	15.1	15.8	19.2	..	12.6	15.7
1986–90	13.7	..	..	15.1	14.8	17.1	..	..	10.6	16.0
1991–95	13.2	..	10.2	..	..	..	18.5 [16]	..	..	..
1996–00	12.0	10.6	8.6	13.4	11.4	14.9	..	..	9.5	14.3
2001	11.3	10.4	9.0	12.7	10.8	14.4	13.4 [15]	25.4	9.2	14.1
2002	11.3	10.3	9.6	12.8	10.5	13.7	12.9 [15]	25.0	9.1	13.9
2003	11.7	..	10.2	12.6	10.6	14.0	12.4 [15]	24.8	8.8	14.1
2004	12.1	..	10.5	12.7	10.5	14.3	12.3 [15]	24.1	8.7	14.0
2005	12.0	..	..	12.9	..	..	..	..	..	..
2006	12.4[P]	..	..	..	..	..	..	..	..	..
Death rate (per 1,000 population per annum)										
1971–75	11.8	..	..	8.2	7.4	8.4	7.3	15.5	6.4	9.1
1976–80	11.9	..	..	7.6	7.2	8.2	6.6	13.8	6.1	8.7
1981–85	11.7	..	..	7.3	7.0	8.1	6.7	..	6.1	8.6
1986–90	11.4	..	..	7.2	7.3	8.2	..	..	6.4	8.7
1991–95	11.1	..	13.7	..	..	..	..	..	..	..
1996–00	10.6	10.0	14.3	6.9	7.2	7.2	..	..	7.4	8.5
2001	10.2	9.7	15.4	6.6	7.1	7.2	6.4 [15]	8.4	7.6	8.5
2002	10.2	9.8	16.1	6.8	7.1	7.1	6.4 [15]	8.1	7.7	8.5
2003	10.3	..	16.4	6.7	7.1	7.0	6.4 [15]	8.0	8.0	8.4
2004	9.7	..	16.0	6.6	7.3	7.0	6.4 [15]	7.5	8.1	8.2
2005	9.7	..	..	6.4	..	..	..	..	..	..
2006	9.5[P]	..	..	..	..	..	..	..	..	..

See notes on first page of table.

Table 1.2 Population: national

Constituent countries of the United Kingdom

Numbers (thousands) and percentage age distribution

Mid-year	United Kingdom	Great Britain	England and Wales	England	Wales	Scotland	Northern Ireland
Estimates							
1971	55,928	54,388	49,152	46,412	2,740	5,236	1,540
1976	56,216	54,693	49,459	46,660	2,799	5,233	1,524
1981	56,357	54,815	49,634	46,821	2,813	5,180	1,543
1986	56,684	55,110	49,999	47,188	2,811	5,112	1,574
1991	57,439	55,831	50,748	47,875	2,873	5,083	1,607
1993	57,714	56,078	50,986	48,102	2,884	5,092	1,636
1994	57,862	56,218	51,116	48,229	2,887	5,102	1,644
1995	58,025	56,376	51,272	48,383	2,889	5,104	1,649
1996	58,164	56,503	51,410	48,519	2,891	5,092	1,662
1997	58,314	56,643	51,560	48,665	2,895	5,083	1,671
1998	58,475	56,797	51,720	48,821	2,900	5,077	1,678
1999	58,684	57,005	51,933	49,033	2,901	5,072	1,679
2000	58,886	57,203	52,140	49,233	2,907	5,063	1,683
2001	59,113	57,424	52,360	49,450	2,910	5,064	1,689
2002	59,322	57,625	52,570	49,647	2,923	5,055	1,697
2003	59,554	57,851	52,794	49,856	2,938	5,057	1,703
2004	59,834	58,124	53,046	50,093	2,952	5,078	1,710
2005	60,209	58,485	53,390	50,432	2,959	5,095	1,724
2006	..	..	..	..	..	5,117	..
2005 by age group **(percentages)**							
0–4	*5.7*	*5.7*	*5.7*	*5.7*	*5.4*	*5.2*	*6.4*
5–15	*13.6*	*13.5*	*13.6*	*13.5*	*13.8*	*13.0*	*15.7*
16–44	*40.2*	*40.2*	*40.3*	*40.4*	*37.5*	*39.6*	*41.3*
45–64M/59F	*21.8*	*21.9*	*21.8*	*21.7*	*22.8*	*23.0*	*20.4*
65M/60F–74	*11.0*	*11.1*	*11.0*	*10.9*	*12.1*	*11.7*	*10.0*
75 and over	*7.6*	*7.7*	*7.7*	*7.7*	*8.4*	*7.4*	*6.3*
Projections[1]							
2006	60,533	58,800	53,691	50,714	2,977	5,108	1,733
2011	61,892	60,124	55,005	51,967	3,037	5,120	1,767
2016	63,304	61,504	56,378	53,276	3,102	5,126	1,800
2021	64,727	62,897	57,770	54,605	3,165	5,127	1,830
2026	66,002	64,151	59,042	55,823	3,219	5,109	1,851
2029	66,644	64,786	59,700	56,457	3,243	5,086	1,858
2029 by age group **(percentages)**							
0–4	*5.3*	*5.3*	*5.4*	*5.4*	*5.0*	*4.7*	*5.4*
5–15	*11.9*	*11.9*	*12.0*	*12.0*	*11.8*	*11.1*	*12.8*
16–44	*36.1*	*36.1*	*36.2*	*36.4*	*34.0*	*34.0*	*35.7*
45–64[2]	*24.5*	*24.5*	*24.4*	*24.4*	*24.4*	*25.3*	*24.6*
65–74[2]	*10.8*	*10.8*	*10.7*	*10.6*	*11.9*	*12.6*	*11.0*
75 and over	*11.3*	*11.4*	*11.3*	*11.2*	*12.9*	*12.4*	*10.5*

Note: Figures may not add exactly due to rounding.

1 National projections based on mid-2004 population estimates.

2 Between 2010 and 2020, state retirement age will change from 65 years for men and 60 years for women to 65 years for both sexes.

Tel no. for all queries relating to population estimates - 01329 813318

Table 1.3 Population: subnational

Government Office Regions of England

Numbers (thousands) and percentage age distribution

Mid-year	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East	London	South East	South West
Estimates									
1971	2,679	7,108	4,902	3,652	5,146	4,454	7,529	6,830	4,112
1976	2,671	7,043	4,924	3,774	5,178	4,672	7,089	7,029	4,280
1981	2,636	6,940	4,918	3,853	5,187	4,854	6,806	7,245	4,381
1986	2,594	6,833	4,884	3,908	5,180	4,999	6,774	7,468	4,548
1991	2,587	6,843	4,936	4,011	5,230	5,121	6,829	7,629	4,688
1993	2,594	6,847	4,954	4,056	5,246	5,154	6,844	7,673	4,734
1994	2,589	6,839	4,960	4,072	5,249	5,178	6,874	7,712	4,757
1995	2,583	6,828	4,961	4,092	5,257	5,206	6,913	7,763	4,782
1996	2,576	6,810	4,961	4,108	5,263	5,233	6,974	7,800	4,793
1997	2,568	6,794	4,958	4,120	5,262	5,267	7,015	7,853	4,827
1998	2,561	6,792	4,958	4,133	5,271	5,302	7,065	7,889	4,849
1999	2,550	6,773	4,956	4,152	5,272	5,339	7,154	7,955	4,881
2000	2,543	6,774	4,959	4,168	5,270	5,375	7,237	7,991	4,917
2001	2,540	6,773	4,977	4,190	5,281	5,400	7,322	8,023	4,943
2002	2,538	6,783	4,993	4,223	5,304	5,422	7,371	8,044	4,968
2003	2,539	6,805	5,009	4,252	5,320	5,463	7,388	8,080	4,999
2004	2,545	6,827	5,039	4,280	5,334	5,491	7,429	8,110	5,038
2005	2,558	6,846	5,064	4,306	5,365	5,542	7,518	8,164	5,068
2005 by age group **(percentages)**									
0–4	*5.3*	*5.6*	*5.7*	*5.5*	*5.9*	*5.7*	*6.6*	*5.6*	*5.1*
5–15	*13.3*	*13.9*	*13.8*	*13.6*	*14.0*	*13.7*	*12.7*	*13.7*	*13.2*
16–44	*39.2*	*39.5*	*39.7*	*39.2*	*39.3*	*38.5*	*48.9*	*39.0*	*36.9*
45–64M/59F	*22.8*	*22.1*	*22.0*	*22.6*	*21.8*	*22.4*	*18.1*	*22.4*	*23.0*
65M/60F–74	*11.8*	*11.3*	*11.2*	*11.3*	*11.3*	*11.4*	*8.1*	*11.1*	*12.4*
75 and over	*7.7*	*7.5*	*7.7*	*7.8*	*7.7*	*8.1*	*5.7*	*8.2*	*9.4*
Projections[1]									
2006	2,554	6,871	5,104	4,335	5,373	5,568	7,591	8,205	5,113
2011	2,570	6,965	5,246	4,458	5,452	5,731	7,875	8,397	5,275
2016	2,590	7,072	5,390	4,580	5,539	5,898	8,164	8,603	5,440
2021	2,612	7,185	5,535	4,703	5,630	6,067	8,438	8,823	5,611
2026	2,631	7,284	5,669	4,817	5,710	6,224	8,678	9,036	5,775
2029	2,638	7,331	5,738	4,874	5,749	6,308	8,807	9,150	5,863
2029 by age group **(percentages)**									
0–4	*5.0*	*5.3*	*5.4*	*5.0*	*5.6*	*5.2*	*6.4*	*5.3*	*4.7*
5–15	*11.6*	*12.2*	*12.1*	*11.7*	*12.6*	*12.0*	*12.0*	*12.1*	*11.2*
16–44	*35.1*	*35.7*	*36.2*	*34.1*	*35.3*	*33.8*	*44.9*	*35.1*	*32.7*
45–64[2]	*24.4*	*24.5*	*24.3*	*25.0*	*24.2*	*24.9*	*23.5*	*24.7*	*25.0*
65–74[2]	*12.0*	*11.1*	*10.9*	*11.7*	*10.7*	*11.4*	*7.0*	*10.8*	*12.4*
75 and over	*11.9*	*11.2*	*11.1*	*12.4*	*11.7*	*12.7*	*6.2*	*12.0*	*14.0*

Note: Figures may not add exactly due to rounding.

1 These projections are based on the mid-2004 population estimates and are consistent with the 2004-based national projections produced by the Government Actuary's Department and presented in Table 1.2.

2 Between 2010 and 2020, state retirement age will change from 65 years for men and 60 years for women to 65 years for both sexes.

Tel no. for all queries relating to population estimates:- 01329 813318.

Table 1.4 Population: age and sex

Constituent countries of the United Kingdom

Numbers (thousands)

Mid-year	All ages	Age group														
		Under 1	1–4	5–14	15–24	25–34	35–44	45–59	60–64	65–74	75–84	85–89	90 and over	Under 16	16–64/59[1]	65/60[1] and over
United Kingdom																
Persons																
1981	56,357	730	2,726	8,147	9,019	8,010	6,774	9,540	2,935	5,195	2,677	..	..	12,543	33,780	10,035
1986	56,684	748	2,886	7,143	9,200	8,007	7,711	9,212	3,069	5,020	2,971	716	..	11,645	34,725	10,313
1991	57,439	790	3,077	7,141	8,168	8,898	7,918	9,500	2,888	5,067	3,119	626	248	11,685	35,197	10,557
1996	58,164	719	3,019	7,544	7,231	9,131	7,958	10,553	2,785	5,066	3,129	711	317	12,018	35,498	10,649
1998	58,475	713	2,930	7,649	7,079	8,948	8,285	10,767	2,835	4,979	3,211	736	344	12,013	35,746	10,717
1999	58,684	704	2,896	7,684	7,090	8,795	8,474	10,887	2,877	4,948	3,230	746	354	12,011	35,928	10,745
2000	58,886	682	2,869	7,652	7,139	8,646	8,678	11,011	2,900	4,940	3,249	755	364	11,959	36,138	10,788
2001	59,113	663	2,819	7,624	7,261	8,475	8,846	11,168	2,884	4,947	3,296	753	377	11,863	36,406	10,845
2002	59,322	661	2,753	7,601	7,403	8,256	9,002	11,316	2,890	4,969	3,345	739	388	11,783	36,622	10,916
2003	59,554	679	2,703	7,542	7,575	8,070	9,108	11,424	2,943	5,005	3,401	706	399	11,712	36,828	11,014
2004	59,834	705	2,684	7,477	7,720	7,937	9,192	11,517	3,021	5,033	3,435	703	409	11,646	37,064	11,125
2005	60,209	716	2,712	7,382	7,871	7,897	9,246	11,624	3,114	5,048	3,424	756	419	11,598	37,368	11,244
Males																
1981	27,412	374	1,400	4,184	4,596	4,035	3,409	4,711	1,376	2,264	922	..	..	6,439	17,646	3,327
1986	27,542	384	1,478	3,664	4,663	4,022	3,864	4,572	1,463	2,206	1,060	166	..	5,968	18,142	3,432
1991	27,909	403	1,572	3,655	4,146	4,432	3,949	4,732	1,390	2,272	1,146	166	46	5,976	18,303	3,630
1996	28,287	369	1,547	3,857	3,652	4,540	3,954	5,244	1,360	2,311	1,187	201	65	6,148	18,375	3,764
1998	28,458	365	1,503	3,916	3,570	4,444	4,109	5,342	1,388	2,293	1,240	215	73	6,151	18,486	3,821
1999	28,578	361	1,485	3,934	3,577	4,367	4,200	5,400	1,409	2,289	1,259	221	77	6,152	18,582	3,845
2000	28,690	350	1,469	3,920	3,606	4,292	4,298	5,457	1,420	2,294	1,278	225	81	6,128	18,685	3,878
2001	28,832	338	1,445	3,906	3,672	4,215	4,382	5,534	1,412	2,308	1,308	227	85	6,077	18,827	3,928
2002	28,963	339	1,409	3,895	3,754	4,107	4,460	5,604	1,414	2,327	1,339	226	89	6,037	18,945	3,982
2003	29,108	349	1,384	3,864	3,850	4,018	4,514	5,653	1,439	2,354	1,371	219	94	6,002	19,068	4,038
2004	29,271	361	1,375	3,833	3,933	3,954	4,553	5,694	1,476	2,374	1,394	224	99	5,970	19,210	4,091
2005	29,479	367	1,389	3,785	4,018	3,933	4,579	5,746	1,519	2,389	1,403	248	103	5,946	19,390	4,143
Females																
1981	28,946	356	1,327	3,963	4,423	3,975	3,365	4,829	1,559	2,931	1,756	..	..	6,104	16,134	6,708
1986	29,142	364	1,408	3,480	4,538	3,985	3,847	4,639	1,606	2,814	1,911	550	..	5,678	16,583	6,881
1991	29,530	387	1,505	3,487	4,021	4,466	3,968	4,769	1,498	2,795	1,972	460	202	5,709	16,894	6,927
1996	29,877	350	1,472	3,687	3,579	4,591	4,005	5,309	1,426	2,755	1,942	509	252	5,870	17,123	6,885
1998	30,017	348	1,427	3,733	3,509	4,504	4,176	5,425	1,447	2,686	1,971	521	271	5,861	17,260	6,895
1999	30,106	343	1,412	3,750	3,513	4,428	4,273	5,487	1,468	2,659	1,971	525	277	5,859	17,346	6,900
2000	30,196	333	1,399	3,732	3,533	4,353	4,380	5,554	1,481	2,646	1,971	530	283	5,832	17,453	6,911
2001	30,281	324	1,375	3,718	3,589	4,260	4,465	5,634	1,473	2,640	1,987	526	292	5,786	17,579	6,917
2002	30,359	323	1,344	3,706	3,649	4,149	4,542	5,712	1,476	2,641	2,006	512	299	5,747	17,677	6,934
2003	30,446	331	1,319	3,677	3,725	4,052	4,594	5,771	1,504	2,651	2,030	486	305	5,710	17,760	6,976
2004	30,563	343	1,309	3,644	3,787	3,983	4,640	5,823	1,545	2,659	2,041	478	310	5,676	17,854	7,034
2005	30,730	349	1,323	3,597	3,853	3,964	4,667	5,878	1,595	2,659	2,022	508	316	5,652	17,978	7,100
England and Wales																
Persons																
1981	49,634	634	2,372	7,085	7,873	7,086	5,996	8,433	2,607	4,619	2,388	383	157	10,910	29,796	8,928
1986	49,999	654	2,522	6,226	8,061	7,052	6,856	8,136	2,725	4,470	2,655	461	182	10,161	30,647	9,190
1991	50,748	698	2,713	6,248	7,165	7,862	7,022	8,407	2,553	4,506	2,790	561	223	10,247	31,100	9,400
1996	51,410	637	2,668	6,636	6,336	8,076	7,017	9,363	2,457	4,496	2,801	639	285	10,584	31,353	9,474
1998	51,720	631	2,594	6,740	6,212	7,925	7,304	9,552	2,503	4,411	2,875	661	311	10,599	31,591	9,530
1999	51,933	625	2,566	6,779	6,228	7,800	7,475	9,656	2,542	4,381	2,891	671	319	10,608	31,771	9,554
2000	52,140	607	2,544	6,757	6,275	7,682	7,661	9,764	2,564	4,372	2,907	680	328	10,572	31,977	9,591
2001	52,360	589	2,502	6,740	6,387	7,536	7,816	9,898	2,549	4,377	2,947	677	340	10,495	32,226	9,639
2002	52,570	589	2,445	6,726	6,520	7,349	7,962	10,027	2,553	4,395	2,990	664	351	10,435	32,435	9,700
2003	52,794	606	2,402	6,677	6,681	7,190	8,062	10,116	2,599	4,427	3,039	634	360	10,381	32,627	9,786
2004	53,046	629	2,388	6,621	6,817	7,073	8,140	10,188	2,669	4,451	3,067	633	370	10,327	32,837	9,882
2005	53,390	639	2,413	6,537	6,959	7,039	8,195	10,272	2,757	4,463	3,056	681	379	10,287	33,114	9,989
Males																
1981	24,160	324	1,218	3,639	4,011	3,569	3,024	4,178	1,227	2,020	825	94	32	5,601	15,589	2,970
1986	24,311	335	1,292	3,194	4,083	3,542	3,438	4,053	1,302	1,972	951	115	35	5,208	16,031	3,072
1991	24,681	356	1,385	3,198	3,638	3,920	3,504	4,199	1,234	2,027	1,029	150	42	5,240	16,193	3,248
1996	25,030	327	1,368	3,393	3,202	4,020	3,489	4,659	1,205	2,059	1,067	182	59	5,416	16,247	3,367
1998	25,201	323	1,331	3,451	3,135	3,942	3,627	4,744	1,230	2,041	1,115	194	66	5,428	16,355	3,417
1999	25,323	321	1,315	3,471	3,144	3,880	3,711	4,793	1,250	2,036	1,132	200	70	5,434	16,452	3,437
2000	25,438	311	1,303	3,462	3,172	3,823	3,802	4,842	1,259	2,040	1,148	204	73	5,416	16,556	3,466
2001	25,574	301	1,281	3,453	3,231	3,758	3,881	4,907	1,252	2,052	1,175	206	77	5,376	16,688	3,510
2002	25,702	302	1,251	3,446	3,307	3,664	3,955	4,967	1,253	2,069	1,203	205	81	5,346	16,799	3,557
2003	25,841	311	1,230	3,422	3,394	3,588	4,006	5,008	1,274	2,092	1,231	199	85	5,320	16,914	3,607
2004	25,988	322	1,223	3,395	3,473	3,531	4,043	5,040	1,307	2,109	1,251	203	90	5,294	17,041	3,653
2005	26,179	327	1,236	3,352	3,553	3,511	4,070	5,082	1,347	2,122	1,259	225	94	5,275	17,205	3,699
Females																
1981	25,474	310	1,154	3,446	3,863	3,517	2,972	4,255	1,380	2,599	1,564	289	126	5,309	14,207	5,958
1986	25,687	319	1,231	3,032	3,978	3,509	3,418	4,083	1,422	2,498	1,704	346	148	4,953	14,616	6,118
1991	26,067	342	1,328	3,050	3,527	3,943	3,517	4,208	1,319	2,479	1,761	411	181	5,007	14,908	6,152
1996	26,381	310	1,300	3,243	3,134	4,056	3,528	4,704	1,252	2,437	1,734	457	227	5,168	15,106	6,107
1998	26,519	308	1,264	3,289	3,077	3,983	3,677	4,808	1,272	2,370	1,760	467	244	5,171	15,235	6,113
1999	26,610	305	1,251	3,308	3,083	3,920	3,763	4,863	1,292	2,345	1,759	472	249	5,175	15,318	6,117
2000	26,702	296	1,241	3,296	3,103	3,859	3,859	4,923	1,304	2,332	1,758	476	255	5,155	15,421	6,126
2001	26,786	288	1,220	3,287	3,156	3,778	3,935	4,992	1,297	2,326	1,771	471	263	5,119	15,538	6,129
2002	26,868	287	1,194	3,280	3,214	3,684	4,007	5,059	1,300	2,326	1,787	460	270	5,090	15,635	6,143
2003	26,953	295	1,172	3,256	3,286	3,602	4,056	5,108	1,325	2,335	1,808	436	275	5,061	15,714	6,179
2004	27,057	307	1,164	3,226	3,344	3,542	4,098	5,148	1,362	2,341	1,816	429	280	5,033	15,796	6,229
2005	27,211	312	1,177	3,185	3,406	3,528	4,124	5,190	1,410	2,342	1,798	456	285	5,013	15,909	6,290

Note: Figures may not add exactly due to rounding.

1 Between 2010 and 2020, state retirement age will change from 65 years for men and 60 years for women to 65 years for both sexes.

Tel no. for all enquiries relating to population estimates:- 01329 813318

Table 1.4 continued **Population: age and sex**

Constituent countries of the United Kingdom

Numbers (thousands)

Mid-year	All ages	Age group														
		Under 1	1–4	5–14	15–24	25–34	35–44	45–59	60–64	65–74	75–84	85–89	90 and over	Under 16	16–64/59[1]	65/65[1] and over
England																
Persons																
1981	46,821	598	2,235	6,678	7,440	6,703	5,663	7,948	2,449	4,347	2,249	362	149	10,285	28,133	8,403
1986	47,188	618	2,380	5,869	7,623	6,682	6,478	7,672	2,559	4,199	2,501	435	172	9,583	28,962	8,643
1991	47,875	660	2,560	5,885	6,772	7,460	6,633	7,920	2,399	4,222	2,626	529	210	9,658	29,390	8,827
1996	48,519	603	2,523	6,255	5,985	7,667	6,638	8,822	2,310	4,217	2,631	602	269	9,985	29,639	8,895
1998	48,821	598	2,453	6,356	5,869	7,524	6,915	8,999	2,353	4,140	2,698	623	293	10,003	29,868	8,950
1999	49,033	592	2,427	6,394	5,881	7,412	7,079	9,097	2,391	4,114	2,713	632	301	10,014	30,044	8,975
2000	49,233	575	2,406	6,375	5,923	7,304	7,257	9,199	2,411	4,107	2,727	641	309	9,980	30,243	9,010
2001	49,450	558	2,366	6,359	6,032	7,171	7,407	9,327	2,395	4,113	2,764	638	321	9,908	30,487	9,055
2002	49,647	558	2,312	6,345	6,155	6,993	7,548	9,448	2,397	4,130	2,804	625	331	9,853	30,683	9,111
2003	49,856	575	2,273	6,300	6,304	6,843	7,643	9,533	2,438	4,159	2,852	596	340	9,804	30,862	9,190
2004	50,093	597	2,260	6,247	6,432	6,732	7,718	9,600	2,503	4,181	2,879	594	349	9,754	31,059	9,280
2005	50,432	606	2,287	6,169	6,570	6,701	7,772	9,682	2,586	4,191	2,870	640	357	9,721	31,330	9,381
Males																
1981	22,795	306	1,147	3,430	3,790	3,377	2,856	3,938	1,154	1,902	777	89	30	5,280	14,717	2,798
1986	22,949	317	1,219	3,010	3,862	3,357	3,249	3,822	1,224	1,853	897	108	33	4,911	15,147	2,891
1991	23,291	336	1,307	3,011	3,439	3,721	3,311	3,957	1,159	1,900	970	141	39	4,938	15,302	3,050
1996	23,629	309	1,294	3,198	3,023	3,818	3,302	4,390	1,133	1,932	1,003	172	55	5,110	15,358	3,161
1998	23,794	306	1,258	3,254	2,960	3,743	3,436	4,470	1,157	1,916	1,047	183	62	5,123	15,462	3,209
1999	23,916	304	1,243	3,274	2,969	3,689	3,517	4,516	1,176	1,913	1,063	188	66	5,129	15,558	3,229
2000	24,030	294	1,232	3,266	2,995	3,638	3,604	4,562	1,184	1,917	1,078	192	69	5,113	15,661	3,256
2001	24,166	285	1,212	3,257	3,053	3,580	3,681	4,624	1,176	1,928	1,103	194	73	5,075	15,793	3,298
2002	24,288	286	1,183	3,251	3,123	3,492	3,753	4,682	1,176	1,944	1,128	193	77	5,047	15,899	3,342
2003	24,415	295	1,164	3,228	3,204	3,418	3,802	4,721	1,195	1,965	1,156	187	80	5,024	16,003	3,388
2004	24,554	306	1,158	3,203	3,278	3,364	3,837	4,752	1,225	1,981	1,175	191	85	5,000	16,122	3,431
2005	24,741	311	1,171	3,164	3,355	3,346	3,866	4,792	1,263	1,992	1,182	212	89	4,984	16,283	3,474
Females																
1981	24,026	292	1,088	3,248	3,650	3,327	2,807	4,009	1,295	2,445	1,472	273	119	5,004	13,416	5,605
1986	24,239	301	1,161	2,859	3,761	3,325	3,229	3,850	1,335	2,346	1,604	326	140	4,672	13,815	5,752
1991	24,584	324	1,253	2,873	3,333	3,739	3,322	3,964	1,239	2,323	1,656	388	171	4,720	14,088	5,777
1996	24,890	293	1,229	3,056	2,961	3,849	3,336	4,432	1,177	2,286	1,628	430	214	4,876	14,281	5,734
1998	25,027	292	1,195	3,102	2,908	3,781	3,479	4,529	1,196	2,224	1,651	440	230	4,880	14,406	5,741
1999	25,117	288	1,183	3,121	2,912	3,724	3,562	4,581	1,215	2,201	1,650	444	235	4,885	14,486	5,746
2000	25,203	281	1,174	3,109	2,928	3,667	3,653	4,637	1,227	2,190	1,649	448	240	4,867	14,582	5,755
2001	25,284	273	1,154	3,102	2,979	3,591	3,726	4,702	1,219	2,185	1,661	444	248	4,834	14,694	5,757
2002	25,358	272	1,129	3,095	3,031	3,501	3,795	4,766	1,220	2,186	1,676	433	254	4,806	14,783	5,769
2003	25,441	280	1,109	3,072	3,100	3,424	3,841	4,812	1,243	2,194	1,696	409	260	4,780	14,859	5,802
2004	25,539	291	1,103	3,044	3,155	3,368	3,881	4,849	1,278	2,200	1,704	403	264	4,754	14,936	5,849
2005	25,691	296	1,116	3,005	3,215	3,356	3,907	4,890	1,322	2,200	1,688	428	269	4,737	15,048	5,906
Wales																
Persons																
1981	2,813	36	136	407	434	383	333	485	158	272	139	21	8	626	1,663	525
1986	2,811	37	143	357	438	369	378	464	166	271	154	26	10	578	1,686	547
1991	2,873	38	153	363	393	402	389	486	154	284	164	32	13	589	1,711	573
1996	2,891	34	146	381	352	409	379	541	147	279	170	37	17	598	1,714	578
1998	2,900	34	141	384	343	401	390	553	150	271	177	38	18	596	1,723	581
1999	2,901	33	139	385	347	388	395	559	151	267	178	39	18	594	1,727	580
2000	2,907	32	138	383	352	378	403	565	152	265	180	39	19	591	1,734	581
2001	2,910	32	136	382	356	365	409	572	154	264	183	39	20	587	1,739	584
2002	2,923	30	132	380	366	356	415	579	156	265	185	39	20	582	1,752	589
2003	2,938	31	129	377	377	347	418	583	161	268	187	38	20	577	1,765	596
2004	2,952	32	127	374	385	341	422	588	166	270	188	39	21	572	1,778	602
2005	2,959	32	127	368	389	338	422	590	171	272	186	42	21	567	1,783	609
Males																
1981	1,365	18	70	209	221	193	168	240	73	118	48	5	2	321	871	173
1986	1,362	19	73	184	221	186	190	231	79	119	54	7	2	297	885	181
1991	1,391	20	78	186	199	199	194	242	74	128	60	8	2	302	891	198
1996	1,401	17	74	195	179	203	187	269	72	128	64	10	3	306	890	206
1998	1,407	17	72	197	174	199	192	274	73	125	68	11	4	305	894	208
1999	1,408	17	72	198	176	192	194	277	74	124	69	11	4	305	895	208
2000	1,408	16	71	196	177	185	198	280	75	124	71	12	4	303	895	210
2001	1,409	16	69	196	179	178	200	283	75	124	73	12	4	301	895	212
2002	1,414	16	68	195	183	172	202	286	77	125	74	12	5	299	900	215
2003	1,426	16	66	194	191	170	204	287	79	127	75	12	5	297	911	219
2004	1,434	16	66	192	196	167	206	289	82	128	76	12	5	294	918	222
2005	1,438	17	65	189	199	165	205	290	84	130	77	13	5	291	922	225
Females																
1981	1,448	18	66	199	213	190	165	246	85	154	91	16	6	305	791	352
1986	1,449	18	70	173	217	184	188	233	87	152	100	20	8	282	801	366
1991	1,482	19	75	177	194	203	195	244	80	156	104	24	10	288	820	375
1996	1,490	16	71	186	173	206	192	272	75	151	106	27	13	293	825	373
1998	1,492	16	69	187	169	202	198	278	76	146	109	27	14	290	829	373
1999	1,493	16	68	187	171	196	201	282	77	144	109	27	15	289	832	371
2000	1,499	15	67	186	175	192	206	285	77	142	109	28	15	288	840	371
2001	1,502	15	66	186	177	187	209	289	78	141	110	27	15	286	844	372
2002	1,509	15	65	185	182	183	212	293	80	140	111	27	16	283	852	374
2003	1,512	15	63	184	186	178	214	296	82	141	112	26	16	281	855	377
2004	1,518	15	62	182	189	174	216	299	85	142	112	26	16	278	859	380
2005	1,521	16	61	180	190	172	217	300	88	142	110	28	16	276	861	384

See notes on first page of table.

Table 1.4 continued **Population: age and sex**

Constituent countries of the United Kingdom — Numbers (thousands)

Mid-year	All ages	Age group														
		Under 1	1–4	5–14	15–24	25–34	35–44	45–59	60–64	65–74	75–84	85–89	90 and over	Under 16	16–64/59[1]	65/60[1] and over
Scotland																
Persons																
1981	5,180	69	249	780	875	724	603	880	260	460	232	35	14	1,188	3,110	882
1986	5,112	66	257	656	863	739	665	849	273	435	252	42	15	1,061	3,161	890
1991	5,083	66	258	634	746	795	696	853	265	441	259	51	19	1,021	3,151	912
1996	5,092	59	252	643	651	798	722	925	259	448	256	57	24	1,019	3,151	922
1998	5,077	58	239	644	628	766	749	941	261	445	262	59	26	1,003	3,145	929
1999	5,072	56	234	643	625	743	762	951	262	444	265	59	27	995	3,144	933
2000	5,063	53	230	636	628	717	774	962	263	445	267	59	28	985	3,141	937
2001	5,064	52	224	629	633	696	782	979	262	447	272	59	29	970	3,150	944
2002	5,055	51	217	622	639	669	788	993	262	449	276	58	30	955	3,150	950
2003	5,057	52	212	614	648	648	793	1,008	265	452	281	55	31	943	3,156	958
2004	5,078	54	210	609	653	635	796	1,025	270	455	286	54	31	935	3,175	968
2005	5,095	54	211	600	659	629	794	1,042	273	457	286	59	32	929	3,191	975
2006	5,117	55	213	588	668	628	790	1,058	280	456	287	63	32	922	3,213	983
Males																
1981	2,495	35	128	400	445	364	298	424	118	194	77	8	3	610	1,603	282
1986	2,462	34	131	336	438	371	331	410	127	184	86	10	3	543	1,636	283
1991	2,445	34	132	324	377	394	345	415	124	192	91	13	3	522	1,623	299
1996	2,447	30	128	328	327	392	355	454	122	198	93	15	5	521	1,616	310
1998	2,439	30	122	329	315	374	367	463	124	198	96	16	5	513	1,610	316
1999	2,437	29	120	329	313	362	372	469	125	198	98	16	6	510	1,609	318
2000	2,432	28	118	326	315	347	377	474	125	199	100	17	6	505	1,606	322
2001	2,434	26	115	322	319	337	379	483	125	200	103	17	6	497	1,610	327
2002	2,432	26	111	319	324	325	382	490	125	202	106	17	7	489	1,612	331
2003	2,435	26	108	314	329	315	383	496	126	204	108	16	7	483	1,616	336
2004	2,446	28	107	312	332	310	384	503	129	207	111	16	7	479	1,627	341
2005	2,456	28	107	307	335	309	382	511	131	208	112	18	7	476	1,635	345
2006	2,469	28	109	301	340	310	380	517	135	208	113	20	7	472	1,649	349
Females																
1981	2,685	33	121	380	430	359	305	456	142	265	155	27	11	579	1,506	600
1986	2,649	32	126	320	424	368	334	439	146	250	166	32	12	518	1,525	606
1991	2,639	32	126	309	369	402	351	437	141	249	168	38	16	499	1,528	612
1996	2,645	28	123	315	324	406	367	470	137	250	164	42	20	498	1,535	612
1998	2,638	28	116	315	313	392	382	478	137	248	166	43	21	490	1,535	614
1999	2,635	27	114	314	312	381	390	483	138	246	166	43	22	486	1,535	614
2000	2,631	26	112	310	313	369	397	488	138	246	166	43	22	480	1,535	616
2001	2,630	26	109	307	314	359	403	496	137	246	169	43	23	473	1,540	617
2002	2,623	25	106	303	315	344	406	504	137	247	171	41	23	466	1,538	619
2003	2,623	25	104	300	318	332	410	512	139	248	173	39	24	460	1,540	622
2004	2,632	26	103	297	321	325	412	521	141	248	175	38	24	457	1,549	627
2005	2,639	26	103	293	324	320	411	531	142	249	174	41	25	453	1,556	630
2006	2,648	27	104	287	328	317	410	541	145	247	174	43	25	450	1,564	634
Northern Ireland																
Persons																
1981	1,543	27	106	282	271	200	175	227	68	116	57	..	..	444	874	224
1986	1,574	28	107	261	277	217	190	227	71	115	64	16	..	423	917	234
1991	1,607	26	106	260	256	240	200	241	70	121	69	14	6	417	945	246
1996	1,662	24	99	266	244	257	220	266	70	123	72	15	7	415	993	253
1998	1,678	24	97	264	239	257	231	275	71	122	74	16	7	411	1,010	257
1999	1,679	23	96	262	237	252	237	279	73	122	75	16	7	408	1,014	258
2000	1,683	22	95	259	237	247	243	284	73	123	75	16	7	403	1,020	259
2001	1,689	22	93	255	240	243	248	290	74	123	77	16	7	397	1,030	262
2002	1,697	22	91	253	243	238	251	296	75	125	79	16	7	393	1,037	266
2003	1,703	21	89	251	246	233	254	301	78	126	81	16	8	388	1,044	271
2004	1,710	22	87	248	250	229	256	305	81	127	82	16	8	383	1,052	275
2005	1,724	23	88	245	253	228	257	310	84	128	83	16	9	381	1,064	280
Males																
1981	757	14	54	145	140	102	87	109	32	50	21	..	..	228	454	75
1986	768	14	55	134	142	109	95	110	33	50	23	4	..	217	474	77
1991	783	13	54	133	131	119	100	118	32	53	26	4	1	213	487	83
1996	810	12	51	136	124	128	109	131	33	54	27	4	1	212	511	87
1998	819	12	50	135	121	128	114	135	34	54	28	5	2	211	520	89
1999	818	12	49	134	119	125	117	138	35	54	29	5	2	209	521	89
2000	820	11	49	133	120	122	119	141	35	55	29	5	2	207	524	90
2001	824	11	48	131	122	120	122	144	35	56	30	5	2	204	529	92
2002	829	11	47	130	124	117	123	147	36	56	31	5	2	202	534	94
2003	833	11	46	129	126	115	124	149	38	58	31	5	2	199	538	95
2004	836	11	45	127	128	113	125	151	39	58	32	5	2	197	542	97
2005	844	12	45	126	130	113	126	153	41	59	32	5	2	196	550	99
Females																
1981	786	13	52	137	130	98	88	118	37	66	37	..	..	216	420	150
1986	805	13	52	127	135	107	96	118	38	65	41	12	..	206	442	157
1991	824	13	52	127	125	121	100	123	38	67	44	10	4	203	458	163
1996	851	11	49	130	120	129	110	135	37	69	45	11	6	203	482	167
1998	859	12	47	129	118	129	117	139	37	68	46	11	6	201	490	168
1999	861	11	47	128	117	127	120	141	38	68	46	11	6	199	493	169
2000	862	11	46	126	118	125	124	143	38	68	46	11	6	196	497	169
2001	865	10	45	124	119	123	126	146	38	68	47	11	6	193	501	170
2002	868	11	44	123	119	120	128	149	39	68	48	11	6	191	504	173
2003	870	10	43	122	120	118	129	152	40	68	49	11	6	189	506	175
2004	874	11	42	121	122	116	130	154	42	69	50	11	6	187	509	178
2005	880	11	43	119	123	115	131	157	43	69	50	11	7	186	514	181

See notes on first page of table.

Table 1.5 Population: age, sex and legal marital status

England and Wales

Numbers (thousands)

Mid-year	Total population	Males					Females				
		Single	Married	Divorced	Widowed	Total	Single	Married	Divorced	Widowed	Total
Aged											
16 and over											
1971	36,818	4,173	12,522	187	682	17,563	3,583	12,566	296	2,810	19,255
1976	37,486	4,369	12,511	376	686	17,941	3,597	12,538	533	2,877	19,545
1981	38,724	5,013	12,238	611	698	18,559	4,114	12,284	828	2,939	20,165
1986[1]	39,837	5,625	11,867	917	695	19,103	4,617	12,000	1,165	2,953	20,734
1991	40,501	5,891	11,636	1,187	727	19,441	4,817	11,833	1,459	2,951	21,060
1996	40,827	6,225	11,310	1,346	733	19,614	5,168	11,433	1,730	2,881	21,212
1997	40,966	6,337	11,240	1,379	734	19,690	5,288	11,353	1,781	2,855	21,276
1998	41,121	6,450	11,183	1,405	735	19,773	5,406	11,284	1,827	2,832	21,349
1999	41,325	6,582	11,143	1,433	732	19,890	5,526	11,235	1,875	2,800	21,435
2000	41,569	6,721	11,113	1,456	731	20,022	5,650	11,199	1,927	2,772	21,547
2001	41,865	6,894	11,090	1,482	733	20,198	5,798	11,150	1,975	2,745	21,667
2002	42,135	7,076	11,015	1,535	731	20,357	5,961	11,073	2,035	2,709	21,778
2003	42,413	7,261	10,940	1,590	728	20,520	6,128	11,000	2,096	2,668	21,892
2004	42,719	7,461	10,863	1,644	726	20,694	6,306	10,935	2,156	2,628	22,025
2005	43,103	7,685	10,800	1,695	723	20,904	6,515	10,880	2,215	2,588	22,199
16–19											
1971	2,666	1,327	34	0	0	1,362	1,163	142	0	0	1,305
1976	2,901	1,454	28	0	0	1,482	1,289	129	0	0	1,419
1981	3,310	1,675	20	0	0	1,694	1,523	93	0	0	1,616
1986[1]	3,131	1,587	10	0	0	1,596	1,484	49	1	0	1,535
1991	2,665	1,358	8	0	0	1,366	1,267	32	0	0	1,300
1996	2,402	1,209	6	0	0	1,216	1,164	21	0	0	1,186
1997	2,478	1,246	6	0	0	1,253	1,203	20	1	1	1,225
1998	2,532	1,274	6	1	0	1,281	1,230	20	1	1	1,251
1999	2,543	1,280	6	1	1	1,288	1,234	20	1	1	1,255
2000	2,523	1,276	6	1	1	1,283	1,221	18	1	1	1,240
2001	2,567	1,304	5	1	1	1,312	1,237	16	1	1	1,255
2002	2,633	1,347	4	1	1	1,353	1,266	13	1	1	1,280
2003	2,702	1,386	4	1	1	1,391	1,299	12	0	1	1,311
2004	2,770	1,423	3	0	0	1,427	1,332	11	0	0	1,343
2005	2,807	1,441	2	0	0	1,443	1,355	9	0	0	1,364
20–24											
1971	3,773	1,211	689	3	0	1,904	745	1,113	9	2	1,869
1976	3,395	1,167	557	4	0	1,728	725	925	16	2	1,667
1981	3,744	1,420	466	10	1	1,896	1,007	811	27	2	1,847
1986[1]	4,171	1,768	317	14	0	2,099	1,383	657	32	1	2,072
1991	3,911	1,717	242	12	0	1,971	1,421	490	29	1	1,941
1996	3,291	1,538	117	3	0	1,658	1,361	260	11	1	1,633
1997	3,141	1,479	99	3	0	1,580	1,325	225	9	1	1,561
1998	3,047	1,442	86	2	0	1,530	1,306	201	8	1	1,517
1999	3,047	1,449	78	2	0	1,530	1,320	188	8	1	1,517
2000	3,088	1,470	74	3	0	1,548	1,352	180	8	1	1,540
2001	3,157	1,501	74	3	1	1,579	1,390	178	8	1	1,578
2002	3,211	1,534	69	3	1	1,607	1,428	166	8	1	1,604
2003	3,283	1,573	69	3	1	1,646	1,466	161	8	1	1,637
2004	3,358	1,621	67	3	1	1,692	1,499	156	8	2	1,665
2005	3,454	1,682	65	3	1	1,751	1,545	149	8	2	1,703
25–29											
1971	3,267	431	1,206	16	1	1,654	215	1,367	29	4	1,614
1976	3,758	533	1,326	39	2	1,900	267	1,522	65	5	1,859
1981	3,372	588	1,057	54	1	1,700	331	1,247	89	4	1,671
1986[1]	3,713	835	949	79	1	1,863	527	1,207	113	4	1,850
1991	4,154	1,132	856	82	1	2,071	800	1,158	123	2	2,083
1996	3,950	1,273	650	46	1	1,970	977	906	93	3	1,980
1997	3,877	1,294	595	42	1	1,932	1,012	844	85	3	1,945
1998	3,789	1,304	544	38	1	1,887	1,039	783	77	3	1,902
1999	3,687	1,304	497	34	1	1,836	1,051	725	72	3	1,851
2000	3,605	1,305	459	31	1	1,796	1,065	677	65	3	1,810
2001	3,487	1,293	420	28	1	1,742	1,059	625	58	3	1,745
2002	3,348	1,276	371	26	1	1,674	1,052	567	52	3	1,674
2003	3,262	1,271	337	25	1	1,634	1,053	524	49	2	1,628
2004	3,260	1,292	318	24	1	1,635	1,080	497	47	2	1,625
2005	3,327	1,335	305	23	1	1,664	1,132	483	46	2	1,663

1 The estimates by marital status for 1986 are based on the original mid-2001 population estimates, and are subject to further revision.

Table 1.5 continued **Population: age, sex and legal marital status**

England and Wales

Numbers (thousands)

Mid-year	Total population	Males					Females				
		Single	Married	Divorced	Widowed	Total	Single	Married	Divorced	Widowed	Total
30–34											
1971	2,897	206	1,244	23	3	1,475	111	1,269	34	8	1,422
1976	3,220	236	1,338	55	3	1,632	118	1,388	75	8	1,588
1981	3,715	318	1,451	97	3	1,869	165	1,544	129	9	1,846
1986[1]	3,338	355	1,197	124	2	1,679	206	1,293	154	6	1,660
1991	3,708	520	1,172	155	2	1,849	335	1,330	189	5	1,859
1996	4,126	776	1,135	138	2	2,050	551	1,316	201	7	2,076
1997	4,151	817	1,111	133	2	2,064	589	1,293	198	7	2,088
1998	4,136	848	1,078	127	3	2,056	621	1,259	193	7	2,081
1999	4,113	877	1,043	121	3	2,044	651	1,223	188	7	2,069
2000	4,076	904	1,007	114	2	2,027	679	1,182	181	7	2,049
2001	4,050	934	971	108	2	2,016	711	1,142	174	7	2,033
2002	4,000	961	921	105	2	1,990	743	1,094	167	6	2,010
2003	3,928	981	868	102	2	1,954	767	1,043	159	6	1,974
2004	3,813	987	811	97	2	1,897	777	985	149	5	1,916
2005	3,712	996	758	91	2	1,848	789	932	139	5	1,864
35–44											
1971	5,736	317	2,513	48	13	2,891	201	2,529	66	48	2,845
1976	5,608	286	2,442	104	12	2,843	167	2,427	129	42	2,765
1981	5,996	316	2,519	178	12	3,024	170	2,540	222	41	2,972
1986[1]	6,856	396	2,738	293	12	3,438	213	2,815	350	39	3,418
1991	7,022	477	2,632	384	11	3,504	280	2,760	444	34	3,517
1996	7,017	653	2,426	398	12	3,489	427	2,568	497	36	3,528
1997	7,155	708	2,433	403	12	3,556	472	2,580	511	36	3,599
1998	7,304	768	2,442	405	13	3,627	522	2,596	523	36	3,677
1999	7,475	832	2,459	408	13	3,711	577	2,617	533	37	3,763
2000	7,661	899	2,481	410	12	3,802	635	2,640	547	37	3,859
2001	7,816	963	2,494	411	12	3,881	692	2,649	558	36	3,935
2002	7,962	1,031	2,489	424	12	3,955	751	2,650	571	35	4,007
2003	8,062	1,089	2,471	435	12	4,006	805	2,634	583	34	4,056
2004	8,140	1,142	2,445	444	11	4,043	858	2,614	593	32	4,098
2005	8,195	1,195	2,415	449	11	4,070	911	2,584	597	31	4,124
45–64											
1971	11,887	502	4,995	81	173	5,751	569	4,709	125	733	6,136
1976	11,484	496	4,787	141	160	5,583	462	4,568	188	683	5,901
1981	11,040	480	4,560	218	147	5,405	386	4,358	271	620	5,635
1986[1]	10,860	461	4,422	331	141	5,355	327	4,220	388	570	5,505
1991	10,960	456	4,394	456	127	5,433	292	4,211	521	503	5,527
1996	11,820	528	4,587	628	121	5,864	318	4,466	732	440	5,956
1997	11,927	545	4,593	656	120	5,914	328	4,486	770	430	6,014
1998	12,055	565	4,608	681	121	5,974	340	4,512	807	422	6,080
1999	12,198	589	4,627	706	121	6,043	355	4,541	844	415	6,155
2000	12,328	615	4,638	727	121	6,101	372	4,564	881	410	6,227
2001	12,447	644	4,647	747	121	6,159	391	4,578	918	401	6,289
2002	12,580	671	4,649	780	120	6,220	413	4,596	960	391	6,359
2003	12,715	702	4,647	815	118	6,283	437	4,613	1,002	380	6,433
2004	12,857	736	4,644	850	117	6,347	465	4,628	1,045	371	6,510
2005	13,029	774	4,651	888	116	6,429	498	4,649	1,091	362	6,600
65 and over											
1971	6,592	179	1,840	17	492	2,527	580	1,437	32	2,016	4,065
1976	7,119	197	2,033	33	510	2,773	569	1,579	60	2,138	4,347
1981	7,548	216	2,167	54	534	2,971	533	1,692	90	2,263	4,578
1986[1]	7,768	223	2,234	76	539	3,072	477	1,759	127	2,333	4,696
1991	8,080	231	2,332	99	586	3,248	422	1,853	152	2,405	4,832
1996	8,221	247	2,390	134	597	3,367	369	1,897	196	2,393	4,854
1997	8,237	248	2,404	143	597	3,391	358	1,904	207	2,377	4,845
1998	8,258	250	2,418	152	597	3,417	348	1,913	218	2,362	4,841
1999	8,262	251	2,431	161	594	3,437	338	1,922	230	2,336	4,825
2000	8,287	252	2,449	171	593	3,466	327	1,938	243	2,313	4,821
2001	8,342	254	2,478	183	595	3,510	318	1,960	259	2,295	4,832
2002	8,400	256	2,511	197	595	3,557	308	1,987	276	2,272	4,843
2003	8,461	258	2,544	211	594	3,607	301	2,015	294	2,244	4,854
2004	8,520	259	2,575	225	593	3,653	293	2,044	314	2,216	4,867
2005	8,579	261	2,605	241	592	3,699	286	2,074	334	2,186	4,880

Table 2.1 Vital statistics summary

Constituent countries of the United Kingdom

Numbers (thousands) and rates

Year and quarter	All live births		Live births outside marriage		Marriages		Civil Partnerships		Divorces		Deaths		Infant mortality[6]		Neonatal mortality[7]		Perinatal mortality[8]	
	Number	Rate[1]	Number	Rate[2]	Number	Rate[3]	Number	Rate[4]	Number	Rate[5]	Number	Rate[1]	Number	Rate[2]	Number	Rate[2]	Number	Rate[9]
United Kingdom																		
1976	675.5	12.0	61.1	90	406.0	..	:	:	135.4	..	680.8	12.1	9.79	14.5	6.68	9.9	12.25	18.0
1981	730.7	13.0	91.3	125	397.8	49.4	:	:	156.4	11.3	658.0	11.7	8.16	11.2	4.93	6.7	8.79	12.0
1986	754.8	13.3	154.3	204	393.9	..	:	:	168.2	..	660.7	11.7	7.18	9.5	4.00	5.3	7.31	9.6
1991	792.3	13.8	236.1	298	349.7	..	:	:	173.5	..	646.2	11.2	5.82	7.4	3.46	4.4	6.45	8.1
1996	733.2	12.6	260.4	355	317.5	..	:	:	171.7	..	636.0	10.9	4.50	6.1	3.00	4.1	6.41	8.7
1999	700.0	11.9	271.6	388	301.1	..	:	:	158.7	..	632.1	10.8	4.05	5.8	2.73	3.9	5.79	8.2
2000	679.0	11.5	268.1	395	305.9	..	:	:	154.6	..	608.4	10.3	3.79	5.6	2.63	3.9	5.56	8.1
2001	669.1	11.3	268.0	401	286.1	..	:	:	156.8	..	602.3	10.2	3.66	5.5	2.43	3.6	5.39	8.0
2002	668.8	11.3	271.7	406	293.0	..	:	:	160.5	..	606.2	10.2	3.50	5.2	2.36	3.5	5.57	8.3
2003	695.6	11.7	288.5	415	308.6	..	:	:	166.7	..	612.0	10.3	3.69	5.3	2.53	3.6	5.96	8.5
2004	716.0	12.0	302.6	423	313.6	..	:	:	167.1	..	583.1	9.7	3.61	5.0	2.46	3.4	6.00	8.3
2005	722.6	12.0	310.2	429	285.0[P]	..	1.95[10]	..	155.1	..	582.7	9.7	3.68	5.1	2.53	3.5	5.82	8.0
2006	see footnote 11				..	..	16.11 [P]	..	..	..	572.2[P]	9.5[P]	3.74[P]	..[11]	2.61[P]	..[11]	..[11]	..[11,12]
2004 March	174.3	11.7	73.6	422	39.7	..	:	:	43.1	..	159.7	10.7	0.97	5.5	0.64	3.7	1.51	8.6
June	176.2	11.8	73.2	415	86.1	..	:	:	41.5	..	139.3	9.4	0.84	4.8	0.59	3.4	1.48	8.3
Sept	185.1	12.3	78.5	424	129.4	..	:	:	42.3	..	135.1	9.0	0.90	4.9	0.64	3.5	1.59	8.5
Dec	180.4	12.0	77.3	429	58.4	..	:	:	40.2	..	149.0	9.9	0.90	5.0	0.58	3.2	1.43	7.9
2005 March	173.2	11.7	74.5	430	35.0[P]	..	:	:	39.4	..	165.1	11.1	0.95	5.5	0.64	3.7	1.39	8.0
June	179.0	11.9	75.0	419	78.9[P]	..	:	:	40.0	..	141.1	9.5	0.93	5.2	0.64	3.6	1.53	8.5
Sept	190.3	12.5	82.5	434	120.7[P]	..	:	:	38.9	..	130.9	8.7	0.91	4.8	0.66	3.5	1.49	7.8
Dec	180.1	11.9	78.2	434	50.5[P]	..	1.95[10]	..	36.7	..	145.5	9.7	0.90	5.0	0.59	3.3	1.42	7.8
2006 March	178.9[P]	12.0[P]	77.5[P]	433[P]	..	..	4.87[P]	..	..	..	159.9[P]	10.7[P]	0.90[P]	5.1[P]	0.61[P]	3.4[P]	1.38[P]	7.7[P]
June	186.0[P]	12.3[P]	80.2[P]	431[P]	..	..	4.36[P]	..	..	..	141.4[P]	9.4[P]	0.94[P]	5.0[P]	0.65[P]	3.5[P]	1.44[P]	7.7[P]
Sept	195.2[P]	12.8[P]	85.8[P]	439[P]	..	..	4.49[P]	..	..	..	130.7[P]	8.6[P]	0.93[P]	4.8[P]	0.67[P]	3.4[P]	1.46[P]	7.5[P]
Dec	see footnote 11				..	..	2.38[P]	..	..	..	140.2[P]	9.2[P]	0.97[P]	..[11]	0.68[P]	..[11]	..[11]	..[11,12]
England and Wales																		
1976	584.3	11.8	53.8	92	358.6	57.7	:	:	126.7	10.1	598.5	12.1	8.34	14.3	5.66	9.7	10.45	17.7
1981	634.5	12.8	81.0	128	352.0	49.6	:	:	145.7	11.9	577.9	11.6	7.02	11.1	4.23	6.7	7.56	11.8
1986	661.0	13.2	141.3	214	347.9	43.6	:	:	153.9	12.9	581.2	11.6	6.31	9.6	3.49	5.3	6.37	9.6
1991	699.2	13.8	211.3	302	306.8	36.0	:	:	158.7	13.5	570.0	11.2	5.16	7.4	3.05	4.4	5.65	8.0
1996	649.5	12.6	232.7	358	279.0	30.9	:	:	157.1	13.8	560.1	10.9	3.99	6.1	2.68	4.1	5.62	8.6
1999	621.9	12.0	241.9	389	263.5	27.8	:	:	144.6	12.9	556.1	10.7	3.62	5.8	2.44	3.9	5.14	8.2
2000	604.4	11.6	238.6	395	268.0	27.8	:	:	141.1	12.7	535.7	10.3	3.38	5.6	2.34	3.9	4.96	8.2
2001	594.6	11.4	238.1	400	249.2	25.4	:	:	143.8	12.9	530.4	10.1	3.24	5.4	2.14	3.6	4.76	8.0
2002	596.1	11.3	242.0	406	255.6	25.6	:	:	147.7	13.4	533.5	10.1	3.13	5.2	2.13	3.6	4.99	8.3
2003	621.5	11.8	257.2	414	270.1	26.4	:	:	153.5	14.0	538.3	10.2	3.31	5.3	2.26	3.6	5.36	8.6
2004	639.7	12.1	269.7	422	273.1	26.1	:	:	153.4	14.1	512.5	9.7	3.22	5.0	2.21	3.5	5.39	8.4
2005	645.8	12.1	276.5	428	246.0[P]	22.8[P]	1.86[10]	5.8[10]	141.8	13.0	512.7	9.7	3.26	5.0	2.23	3.4	5.21	8.0
2006	see footnote 11				..	..	14.94	1.4 [P]	..	..	502.6[P]	9.4[P]	3.37[P]	..[11]	2.35[P]	..[11]	..[11]	..[11,12]
2004 March	155.2	11.8	65.2	421	35.0	13.5	:	:	39.5	14.6	140.5	10.7	0.87	5.6	0.58	3.8	1.34	8.6
June	157.4	11.9	65.2	414	75.0	28.8	:	:	38.1	14.0	122.1	9.3	0.74	4.7	0.52	3.3	1.31	8.3
Sept	165.4	12.4	70.2	424	113.2	43.0	:	:	39.0	14.2	118.6	8.9	0.80	4.8	0.57	3.5	1.43	8.6
Dec	161.7	12.1	69.1	427	49.9	19.0	:	:	36.9	13.5	131.3	9.8	0.81	5.0	0.53	3.3	1.30	8.0
2005 March	154.3	11.7	66.3	430	30.2[P]	11.4[P]	:	:	36.2	13.5	145.7	11.0	0.85	5.5	0.57	3.7	1.25	8.0
June	159.8	12.0	66.6	417	68.1[P]	25.5[P]	:	:	36.5	13.4	123.8	9.4	0.82	5.2	0.56	3.5	1.35	8.4
Sept	170.2	12.6	73.7	433	104.8[P]	38.8[P]	:	:	35.6	13.0	114.7	8.6	0.79	4.6	0.57	3.4	1.34	7.8
Dec	161.7	12.0	69.9	433	42.9[P]	15.9[P]	1.86[10]	5.8[10]	33.4	12.2	128.5	9.6	0.80	4.9	0.52	3.2	1.28	7.9
2006 March	159.5	12.0[P]	68.7	431	..	..	4.58	1.7[P]	34.3[P]	12.8[P]	141.0[P]	10.7[P]	0.82[P]	5.2[P]	0.56[P]	3.5[P]	1.25[P]	7.8[P]
June	166.2	12.4[P]	71.4	430	..	..	4.01	1.5[P]	33.0[P]	12.2[P]	123.9[P]	9.3[P]	0.84[P]	5.1[P]	0.58[P]	3.5[P]	1.31[P]	7.9[P]
Sept	174.9	12.9[P]	76.8	439	..	..	4.18	1.5[P]	32.9[P]	12.0[P]	114.6[P]	8.5[P]	0.85[P]	4.8[P]	0.60[P]	3.4[P]	1.31[P]	7.5[P]
Dec	see footnote 11				..	..	2.18	0.8[P]	..	..	123.1[P]	9.1[P]	0.86[P]	..[11]	0.60[P]	..[11]	..[11]	..[11,12]
England																		
1976	550.4	11.8	50.8	92	339.0	..	:	:	..	..	560.3	12.0	7.83	14.2	5.32	9.7	9.81	17.6
1981	598.2	12.8	76.9	129	332.2	..	:	:	..	..	541.0	11.6	6.50	10.9	3.93	6.6	7.04	11.7
1986	623.6	13.2	133.5	214	328.4	..	:	:	146.0	..	544.5	11.6	5.92	9.5	3.27	5.2	5.98	9.5
1991	660.8	13.8	198.9	301	290.1	..	:	:	150.1	..	534.0	11.2	4.86	7.3	2.87	4.3	5.33	8.0
1996	614.2	12.7	218.2	355	264.2	..	:	:	148.7	..	524.0	10.8	3.74	6.1	2.53	4.1	5.36	8.7
1999	589.5	12.0	226.7	385	249.5	..	:	:	137.0	..	519.6	10.8	3.38	5.7	2.29	3.9	4.86	8.2
2000	572.8	11.7	223.8	391	253.8	..	:	:	133.9	..	501.0	10.2	3.18	5.6	2.21	3.9	4.69	8.2
2001	563.7	11.4	223.3	396	236.2	..	:	:	136.4	..	496.1	10.0	3.04	5.4	2.02	3.6	4.51	8.0
2002	565.7	11.4	227.0	401	242.1	..	:	:	140.2	..	499.1	10.1	2.97	5.2	2.02	3.6	4.75	8.3
2003	589.9	11.8	241.4	409	255.6	..	:	:	145.8	..	503.4	10.1	3.14	5.3	2.15	3.7	5.09	8.6
2004	607.2	12.1	253.1	417	258.2	..	:	:	145.5	..	479.2	9.6	3.03	5.0	2.09	3.4	5.10	8.4
2005	613.0	12.2	259.4	423	231.1[P]	..	1.79[10]	..	134.6	..	479.4	9.6	3.10	5.0	2.12	3.5	4.92	8.0
2006	see footnote 11				..	..	14.38	..	..	..	470.3[P]	9.3[P]	3.19[P]	..[11]	2.24[P]	..[11]	..[11]	..[11,12]
2004 March	147.3	11.8	61.2	416	33.3	..	:	:	37.4	..	131.4	10.6	0.82	5.5	0.55	3.7	1.26	8.5
June	149.6	12.0	61.3	410	71.0	..	:	:	36.0	..	114.2	9.2	0.69	4.6	0.49	3.3	1.25	8.3
Sept	156.9	12.5	65.8	420	106.8	..	:	:	36.9	..	110.8	8.8	0.74	4.7	0.53	3.4	1.35	8.6
Dec	153.3	12.2	64.7	422	47.2	..	:	:	35.1	..	122.9	9.8	0.78	5.1	0.52	3.4	1.24	8.1
2005 March	146.4	11.8	62.1	424	28.6[P]	..	:	:	34.4	..	136.2	10.9	0.81	5.6	0.54	3.7	1.18	8.0
June	151.8	12.1	62.5	412	64.2[P]	..	:	:	34.7	..	115.7	9.3	0.78	5.1	0.53	3.5	1.28	8.4
Sept	161.4	12.7	69.1	428	98.9[P]	..	:	:	33.8	..	107.3	8.5	0.75	4.7	0.55	3.4	1.27	7.8
Dec	153.4	12.1	65.6	428	40.4[P]	..	1.79[10]	..	31.7	..	120.3	9.6	0.75	4.9	0.50	3.3	1.18	7.7
2006 March	151.4	12.1[P]	64.5	426	..	..	4.42	..	32.5[P]	..	132.0[P]	10.6[P]	0.79[P]	5.2[P]	0.54[P]	3.6[P]	1.19[P]	7.8[P]
June	157.8	12.5[P]	67.0	425	..	..	3.86	..	31.2[P]	..	115.9[P]	9.2[P]	0.80[P]	5.1[P]	0.56[P]	3.5[P]	1.25[P]	7.9[P]
Sept	166.0	13.0[P]	72.0	434	..	..	4.02	..	31.2[P]	..	107.1[P]	8.4[P]	0.80[P]	4.8[P]	0.57[P]	3.4[P]	1.24[P]	7.5[P]
Dec	see footnote 11				..	..	2.09	..	..	..	115.3[P]	9.0[P]	0.81[P]	..[11]	0.57[P]	..[11]	..[11]	..[11,12]

Note: Death figures for England and Wales represent the number of deaths registered in each year up to 1992, and the number of deaths occurring in each year from 1993 to 2005. Provisional death figures for 2006 relate to registrations.
Birth and death figures for England and also for Wales each exclude events for persons usually resident outside England and Wales. These events are, however, included in the totals for England and Wales combined, and for the United Kingdom.
From 1981 births to non-resident mothers in Northern Ireland are excluded from the figures for Northern Ireland, and for the United Kingdom.

Birth and death rates for 2006 are based on the 2004-based population projections for 2006.
Marriage and divorce rates in England and Wales for 1986 have been calculated using the interim revised marital status estimates (based on the original mid-2001 estimates) and are subject to further revision.

Table 2.1 continued **Vital statistics summary**

Constituent countries of the United Kingdom

Numbers (thousands) and rates

Year and quarter	All live births		Live births outside marriage		Marriages		Civil Partnerships		Divorces		Deaths		Infant mortality[6]		Neonatal mortality[7]		Perinatal mortality[8]	
	Number	Rate[1]	Number	Rate[2]	Number	Rate[3]	Number	Rate[4]	Number	Rate[5]	Number	Rate[1]	Number	Rate[2]	Number	Rate[2]	Number	Rate[9]
Wales																		
1976	33.4	11.9	2.9	86	19.5	..	:	:	..	..	36.3	13.0	0.46	13.7	0.32	9.6	0.64	19.0
1981	35.8	12.7	4.0	112	19.8	..	:	:	..	..	35.0	12.4	0.45	12.6	0.29	8.1	0.51	14.1
1986	37.0	13.1	7.8	211	19.5	..	:	:	7.8	..	34.7	12.3	0.35	9.5	0.21	5.6	0.38	10.3
1991	38.1	13.3	12.3	323	16.6	..	:	:	8.4	..	34.1	11.9	0.25	6.6	0.16	4.1	0.30	7.9
1996	34.9	12.1	14.4	412	14.8	..	:	:	8.4	..	34.6	12.0	0.20	5.6	0.13	3.6	0.26	7.5
1999	32.1	11.1	14.8	461	14.0	..	:	:	7.5	..	35.0	12.1	0.20	6.1	0.13	4.0	0.25	7.7
2000	31.3	10.8	14.8	472	14.1	..	:	:	7.2	..	33.3	11.5	0.17	5.3	0.11	3.5	0.23	7.2
2001	30.6	10.5	14.8	483	13.0	..	:	:	7.4	..	33.0	11.3	0.16	5.4	0.11	3.5	0.23	7.5
2002	30.2	10.3	15.0	497	13.5	..	:	:	7.6	..	33.2	11.3	0.14	4.5	0.10	3.2	0.24	7.7
2003	31.4	10.7	15.8	503	14.5	..	:	:	7.7	..	33.7	11.5	0.13	4.3	0.10	3.1	0.24	7.6
2004	32.3	10.9	16.6	513	14.9	..	:	:	7.9	..	32.1	10.9	0.16	4.9	0.10	3.1	0.26	8.0
2005	32.6	11.0	17.1	524	13.9[p]	..	0.07[10]	..	7.2	..	32.1	10.9	0.13	4.1	0.09	2.9	0.24	7.4
2006	see footnote 11				..	..	0.56	..	..	..	31.1[p]	10.4[p]	0.14[p]	..[11]	0.09[p]	..[11]	..[11]	..[11,12]
2004 March	7.8	10.6	4.0	514	1.7	..	:	:	2.0	..	8.8	12.0	0.05	5.9	0.03	3.9	0.08	9.8
June	7.8	10.6	3.9	500	4.0	..	:	:	2.0	..	7.6	10.4	0.04	4.9	0.02	3.1	0.06	7.5
Sept	8.4	11.4	4.3	512	6.4	..	:	:	2.1	..	7.5	10.1	0.04	4.9	0.03	3.7	0.07	7.8
Dec	8.3	11.2	4.4	523	2.7	..	:	:	1.8	..	8.1	11.0	0.03	3.8	0.02	1.8	0.06	6.8
2005 March	7.8	10.7	4.1	529	1.6[p]	..	:	:	1.8	..	9.3	12.6	0.03	4.2	0.02	3.1	0.06	7.7
June	7.9	10.7	4.0	510	3.9[p]	..	:	:	1.8	..	7.8	10.6	0.03	4.2	0.03	3.2	0.06	7.9
Sept	8.7	11.6	4.6	530	6.0[p]	..	:	:	1.8	..	7.1	9.6	0.03	3.3	0.02	2.8	0.06	7.0
Dec	8.2	11.0	4.3	527	2.5[p]	..	0.07[10]	..	1.8	..	7.9	10.7	0.04	4.6	0.02	2.6	0.06	6.8
2006 March	8.1	11.1[p]	4.2	520	..	..	0.16	..	1.8[p]	..	8.7[p]	11.8[p]	0.03[p]	3.1[p]	0.02[p]	2.0[p]	0.06[p]	6.9[p]
June	8.3	11.2[p]	4.3	523	..	..	0.15	..	1.7[p]	..	7.6[p]	10.3[p]	0.03[p]	4.1[p]	0.02[p]	2.4[p]	0.05[p]	6.3[p]
Sept	8.8	11.8[p]	4.8	543	..	..	0.16	..	1.7[p]	..	7.2[p]	9.6[p]	0.04[p]	4.0[p]	0.03[p]	3.1[p]	0.07[p]	7.5[p]
Dec	see footnote 11				..	..	0.09	..	..	..	7.5[p]	10.0[p]	0.04[p]	..[11]	0.03[p]	..[11]	..[11]	..[11,12]
Scotland																		
1976	64.9	12.5	6.0	93	37.5	53.8	:	:	8.1	6.5	65.3	12.5	0.96	14.8	0.67	10.3	1.20	18.3
1981	69.1	13.4	8.5	122	36.2	47.5	:	:	9.9	8.0	63.8	12.3	0.78	11.3	0.47	6.9	0.81	11.6
1986	65.8	12.9	13.6	206	35.8	42.9	:	:	12.8	10.7	63.5	12.4	0.58	8.8	0.34	5.2	0.67	10.2
1991	67.0	13.2	19.5	291	33.8	39.0	:	:	12.4	10.6	61.0	12.0	0.47	7.1	0.29	4.6	0.58	8.6
1996	59.3	11.6	21.4	360	30.2	33.2	:	:	12.3	10.9	60.7	11.9	0.37	6.2	0.23	3.9	0.55	9.2
1999	55.1	10.9	22.7	412	29.9	31.5	:	:	11.9	10.9	60.3	11.9	0.28	5.0	0.18	3.3	0.42	7.6
2000	53.1	10.5	22.6	426	30.4	31.6	:	:	11.1	10.3	57.8	11.4	0.31	5.7	0.21	4.0	0.45	8.4
2001	52.5	10.4	22.8	433	29.6	31.0	:	:	10.6	9.7	57.4	11.3	0.29	5.5	0.20	3.8	0.45	8.5
2002	51.3	10.1	22.5	440	29.8	30.8	:	:	10.8	10.0	58.1	11.5	0.27	5.3	0.16	3.2	0.39	7.6
2003	52.4	10.4	23.9	455	30.8	31.3	:	:	10.1	10.2	58.5	11.6	0.27	5.1	0.18	3.4	0.42	8.0
2004	54.0	10.6	25.2	467	32.2	32.2	:	:	11.2	10.5	56.2	11.1	0.27	4.9	0.17	3.1	0.44	8.1
2005	54.4	10.7	25.6	471	30.9	30.3	0.08[10]	2.5[10]	10.9	10.3	55.7	11.0	0.28	5.2	0.19	3.5	0.42	7.7
2006	55.7[p]	10.9[p]	26.6[p]	477[p]	29.9[p]	28.7	1.05	1.0[p]	13.0[p]	12.3[p]	55.1[p]	10.8[p]	0.25[p]	4.5[p]	0.17[p]	3.1[p]	0.42[p]	7.4[p]
2004 March	13.5	10.7	6.4	472	3.9	15.6	:	:	2.9	10.9	15.3	12.2	0.06	4.6	0.04	2.7	0.13	9.2
June	13.3	10.5	6.1	459	8.7	35.1	:	:	2.8	10.5	13.6	10.7	0.07	5.1	0.05	3.6	0.11	8.4
Sept	13.8	10.8	6.4	462	12.7	50.6	:	:	2.7	10.2	13.1	10.2	0.07	5.3	0.05	3.4	0.11	7.8
Dec	13.3	10.4	6.3	475	6.8	27.3	:	:	2.8	10.4	14.2	11.1	0.06	4.7	0.03	2.6	0.09	6.9
2005 March	13.4	10.6	6.2	464	3.8	15.3	:	:	2.6	10.0	15.6	12.4	0.07	5.0	0.04	3.3	0.09	7.0
June	13.6	10.7	6.4	472	8.6	34.0	:	:	2.8	10.7	13.7	10.8	0.07	5.1	0.05	3.4	0.13	9.2
Sept	14.2	11.1	6.7	471	12.3	48.0	:	:	2.7	10.1	12.8	10.0	0.08	5.6	0.06	3.9	0.11	7.6
Dec	13.2	10.3	6.3	477	6.1	23.7	0.08[10]	2.5[10]	2.8	10.3	13.6	10.7	0.07	5.2	0.05	3.4	0.10	7.1
2006 March	13.6	10.8	6.6	487	3.5	13.6	0.26	1.0	2.6	10.1	14.9[p]	11.8[p]	0.05[p]	3.7[p]	0.03[p]	2.4[p]	0.09[p]	6.7[p]
June	14.0	11.0	6.7	475	8.3	32.1	0.32	1.2	3.1	11.7	13.9[p]	10.9[p]	0.07[p]	5.0[p]	0.05[p]	3.3[p]	0.09[p]	6.4[p]
Sept	14.2	11.0	6.7	471	12.2	46.4	0.28	1.1	3.6	13.4	12.7[p]	9.8[p]	0.05[p]	3.8[p]	0.04[p]	2.9[p]	0.11[p]	7.8[p]
Dec	13.9	10.8	6.6	477	5.9	22.4	0.19	0.7	3.7	14.1	13.6[p]	10.6[p]	0.07[p]	5.3[p]	0.04[p]	3.7[p]	0.12[p]	8.7[p]
Northern Ireland																		
1976	26.4	17.3	1.3	50	9.9	..	:	:	0.6	..	17.0	11.2	0.48	18.3	0.35	13.3	0.59	22.3
1981	27.2	17.6	1.9	70	9.6	45.4	:	:	1.4	4.2	16.3	10.6	0.36	13.2	0.23	8.3	0.42	15.3
1986	28.0	17.8	3.6	128	10.2	..	:	:	1.5	..	16.1	10.3	0.36	13.2	0.23	8.3	0.42	15.3
1991	26.0	16.2	5.3	203	9.2	..	:	:	2.3	..	15.1	9.4	0.19	7.4	0.12	4.6	0.22	8.4
1996	24.4	14.7	6.3	260	8.3	..	:	:	2.3	..	15.2	9.2	0.14	5.8	0.09	3.7	0.23	9.4
1999	23.0	13.7	7.0	303	7.6	..	:	:	2.3	..	15.7	9.3	0.15	6.4	0.11	4.8	0.23	10.0
2000	21.5	12.8	6.8	318	7.6	..	:	:	2.4	..	14.9	8.9	0.11	5.1	0.08	3.8	0.15	7.3
2001	22.0	13.0	7.1	325	7.3	..	:	:	2.4	..	14.5	8.6	0.13	6.1	0.10	4.5	0.19	8.5
2002	21.4	12.6	7.2	335	7.6	..	:	:	2.2	..	14.6	8.6	0.10	4.7	0.07	3.5	0.19	8.9
2003	21.6	12.7	7.4	344	7.8	..	:	:	2.3	..	14.5	8.5	0.11	5.3	0.09	4.0	0.18	8.1
2004	22.3	13.0	7.7	345	8.3	..	:	:	2.5	..	14.4	8.4	0.12	5.5	0.08	3.7	0.18	8.2
2005	22.3	12.9	8.1	363	8.1	..	0.01[10]	..	2.4	..	14.2	8.3	0.14	6.3	0.11	5.1	0.18	8.1
2006	23.3[p]	13.4[p]	8.8[p]	380[p]	8.3[p]	..	0.12[p]	..	2.6[p]	..	14.5[p]	8.4[p]	0.12[p]	5.2[p]	0.09[p]	3.9[p]	0.17[p]	7.1[p]
2004 March	5.7	13.3	2.0	352	0.8	..	:	:	0.8	..	3.9	9.1	0.03	5.5	0.02	3.5	0.05	7.9
June	5.4	12.7	1.8	337	2.4	..	:	:	0.7	..	3.6	8.4	0.03	5.9	0.02	4.4	0.05	9.5
Sept	5.8	13.5	2.0	339	3.5	..	:	:	0.5	..	3.4	8.0	0.04	6.0	0.02	4.1	0.05	8.3
Dec	5.4	12.7	1.9	353	1.6	..	:	:	0.5	..	3.5	8.1	0.02	4.4	0.02	2.8	0.04	7.0
2005 March	5.5	13.0	2.0	363	0.9	..	:	:	0.6	..	3.8	8.9	0.03	5.2	0.02	4.3	0.05	8.8
June	5.7	13.3	2.0	359	2.2	..	:	:	0.7	..	3.7	8.6	0.04	7.2	0.03	5.6	0.04	8.4
Sept	5.9	13.7	2.0	358	3.5	..	:	:	0.5	..	3.4	7.8	0.04	6.6	0.03	5.6	0.04	7.2
Dec	5.2	11.9	1.9	373	1.4	..	0.01[10]	..	0.5	..	3.4	7.9	0.03	6.0	0.02	4.6	0.04	7.9
2006 March	5.8[p]	13.6[p]	2.2[p]	370[p]	0.9[p]	..	0.03[p]	..	0.7[p]	..	4.0[p]	9.4[p]	0.03[p]	5.3[p]	0.02[p]	3.3[p]	0.04[p]	6.8[p]
June	5.8[p]	13.3[p]	2.2[p]	381[p]	2.3[p]	..	0.04[p]	..	0.7[p]	..	3.6[p]	8.4[p]	0.03[p]	4.7[p]	0.02[p]	3.6[p]	0.04[p]	7.4[p]
Sept	6.1[p]	13.9[p]	2.3[p]	358[p]	3.5[p]	..	0.03[p]	..	0.5[p]	..	3.4[p]	7.8[p]	0.03[p]	4.9[p]	0.02[p]	3.6[p]	0.05[p]	7.5[p]
Dec	5.6[p]	12.8[p]	2.2[p]	393[p]	1.5[p]	..	0.02[p]	..	0.6[p]	..	3.5[p]	7.9[p]	0.03[p]	5.9[p]	0.03[p]	5.0[p]	0.04[p]	6.4[p]

See notes on first page of table.

1 Per 1,000 population of all ages.
2 Per 1,000 live births.
3 Persons marrying per 1,000 unmarried population aged 16 and over.
4 Persons forming a civil partnership per 1,000 unmarried population aged 16 and over.
5 Persons divorcing per 1,000 married population.
6 Deaths under 1 year.
7 Deaths under 4 weeks.
8 Stillbirths and deaths under 1 week.
9 Per 1,000 live births and stillbirths.
10 The Civil Partnership Act 2004 came into force on 5 December 2005 in the UK - see Notes to tables.
11 A small number of live birth records for England and Wales in 2006 arrived too late at ONS to be included in the first release published 7 June 2007. The annual and December quarter figures for 2006 are not included. Revised figures are available here: www.statistics.gov.uk/statbase/Product/asp?vlnk=6725
12 A small number of stillbirth records for England and Wales in 2006 arrived too late at ONS to be included. The annual and December quarter figures for 2006 are available here: www.statistics.gov.uk/statbase/Product/asp?vlnk=6725
p provisional

Table 2.2 Key demographic and health indicators

Constituent countries of the United Kingdom

Numbers (thousands), rates, percentages, mean age

				Dependency ratio		Live births					Period expectation of life (in years) at birth		
	Population	Live births	Deaths	Children[1]	Elderly[2]	TFR[3]	Standardised mean age of mother at birth (years)[4]	Unstandardised mean age of mother at birth (years)[5]	Outside marriage as percentage of total live births	Age-standardised mortality rate[6]	Males	Females	Infant mortality rate[7]
United Kingdom													
1976	56,216.1	675.5	680.8	42.1	29.5	1.74	..	26.4	*9.0*	10,486	..	..	14.5
1981	56,357.5	730.7	658.0	37.1	29.7	1.82	27.0	26.8	*12.5*	9,506	70.8	76.8	11.2
1986	56,683.8	754.8	660.7	33.5	29.7	1.78	27.4	27.0	*20.4*	8,914	71.9	77.7	9.5
1991	57,438.7	792.3	646.2	33.2	30.0	1.82	27.7	27.7	*29.8*	8,168	73.2	78.7	7.4
1996	58,164.4	733.2	636.0	33.9	30.0	1.73	28.2	28.6	*35.5*	7,584	74.3	79.4	6.1
2001	59,113.5	669.1	602.3	32.6	29.8	1.63	28.6	29.2	*40.1*	6,807	75.7	80.4	5.5
2002	59,321.7	668.8	606.2	32.2	29.8	1.64	28.7	29.3	*40.6*	6,765	75.9	80.5	5.2
2003	59,553.8	695.6	612.0	31.8	29.9	1.71	28.8	29.4	*41.5*	6,757	76.3	80.7	5.3
2004	59,834.3	716.0	583.1	31.4	30.0	1.77	28.9	29.4	*42.3*	6,390	76.6	81.0	5.0
2005	60,209.5	722.6	582.7	31.0	30.1	1.79	29.1	29.5	*42.9*	6,259	..	..	5.1
2006	..	..[9]	572.2[p]	..	..	..[9]	..[9]	..[9]	..[9]	6,067[8,p]	..	..	..[9]
England													
1976	46,659.9	550.4	560.3	41.4	29.7	1.70	..	26.4	*9.2*	10,271	..	..	14.2
1981	46,820.8	598.2	541.0	36.4	29.9	1.79	..	26.8	*12.9*	9,298	71.1	77.0	10.9
1986	47,187.6	623.6	544.5	33.1	29.8	1.76	27.4	27.0	*21.4*	8,725	72.2	77.9	9.5
1991	47,875.0	660.8	534.0	32.9	30.0	1.81	27.7	27.7	*30.1*	8,017	73.4	78.9	7.3
1996	48,519.1	614.2	524.0	33.7	30.0	1.73	28.2	28.7	*35.5*	7,414	74.5	79.6	6.1
2001	49,449.7	563.7	496.1	32.5	29.7	1.63	28.6	29.3	*39.6*	6,650	76.0	80.6	5.4
2002	49,646.9	565.7	499.1	32.1	29.7	1.65	28.7	29.4	*40.1*	6,603	76.2	80.7	5.2
2003	49,855.7	589.9	503.4	31.8	29.8	1.73	28.9	29.4	*40.9*	6,602	76.6	80.9	5.3
2004	50,093.1	607.2	479.2	31.4	29.9	1.78	29.0	29.5	*41.7*	6,232	76.9	81.2	5.0
2005	50,431.7	613.0	479.4	31.0	29.9	1.80	29.1	29.5	*42.3*	6,110	..	..	5.0
2006	..	..[9]	470.3[p]	..	..	..[9]	..[9]	..[9]	..[9]	5,916[8,p]	..	..	..[9]
Wales													
1976	2,799.3	33.4	36.3	42.0	30.9	1.78	..	26.0	*8.6*	10,858	..	..	13.7
1981	2,813.5	35.8	35.0	37.6	31.6	1.87	..	26.6	*11.2*	9,846	70.4	76.4	12.6
1986	2,810.9	37.0	34.7	34.3	32.5	1.86	26.9	26.5	*21.1*	9,043	71.6	77.5	9.5
1991	2,873.0	38.1	34.1	34.4	33.5	1.88	27.1	27.0	*32.3*	8,149	73.1	78.8	6.6
1996	2,891.3	34.9	34.6	34.9	33.7	1.81	27.5	27.8	*41.2*	7,758	73.9	79.1	5.6
2001	2,910.2	30.6	33.0	33.7	33.6	1.66	27.8	28.3	*48.3*	7,017	75.4	80.1	5.4
2002	2,923.4	30.2	33.2	33.2	33.6	1.63	28.0	28.4	*49.7*	6,951	75.7	80.2	4.5
2003	2,938.0	31.4	33.7	32.7	33.7	1.71	28.1	28.5	*50.3*	6,980	76.0	80.4	4.3
2004	2,952.5	32.3	32.1	32.2	33.9	1.77	28.2	28.5	*51.3*	6,582	76.3	80.7	4.9
2005	2,958.6	32.6	32.1	31.8	34.1	1.79	28.4	28.5	*52.4*	6,434	..	..	4.1
2006	..	..[9]	31.1[p]	..	..	..[9]	..[9]	..[9]	..[9]	6,190[8,p]	..	..	..[9]
Scotland													
1976	5,233.4	64.9	65.3	44.7	28.4	1.79	..	26.0	*9.3*	11,675	..	..	14.8
1981	5,180.2	69.1	63.8	38.2	28.4	1.84	..	26.3	*12.2*	10,849	69.1	75.3	11.3
1986	5,111.8	65.8	63.5	33.6	28.1	1.67	27.1	26.6	*20.6*	10,120	70.2	76.2	8.8
1991	5,083.3	67.0	61.0	32.4	28.9	1.69	27.5	27.4	*29.1*	9,216	71.4	77.1	7.1
1996	5,092.2	59.3	60.7	32.3	29.2	1.56	28.0	28.5	*36.0*	8,791	72.2	77.9	6.2
2001	5,064.2	52.5	57.4	30.8	30.0	1.49	28.5	29.2	*43.3*	7,930	73.3	78.8	5.5
2002	5,054.8	51.3	58.1	30.3	30.2	1.48	28.6	29.2	*44.0*	7,955	73.5	78.9	5.3
2003	5,057.4	52.4	58.5	29.9	30.3	1.54	28.7	29.3	*45.5*	7,922	73.8	79.1	5.1
2004	5,078.4	54.0	56.2	29.5	30.5	1.60	28.9	29.4	*46.7*	7,536	74.2	79.3	4.9
2005	5,094.8	54.4	55.7	29.1	30.6	1.62	29.0	29.5	*47.1*	7,349	..	..	5.2
2006	..	55.7[p]	55.1[p]	..	..	1.67[8,p]	29.1	29.5	*47.7*[p]	7,161[8,p]	..	..	4.5[p]
Northern Ireland													
1976	1,523.5	26.4	17.0	56.1	25.3	2.68	..	27.4	*5.0*	11,746	..	..	18.3
1981	1,543.0	27.2	16.3	50.6	25.3	2.59	28.1	27.5	*7.0*	10,567	69.2	75.5	13.2
1986	1,573.5	28.0	16.1	46.1	25.5	2.45	28.1	27.5	*12.8*	10,071	70.9	77.1	13.2
1991	1,607.3	26.0	15.1	44.1	26.1	2.16	28.3	28.0	*20.3*	8,303	72.6	78.4	7.4
1996	1,661.8	24.4	15.2	41.8	25.5	1.95	28.7	28.8	*26.0*	7,742	73.8	79.2	5.8
2001	1,689.3	22.0	14.5	38.6	25.5	1.80	29.1	29.4	*32.5*	6,976	75.2	80.1	6.1
2002	1,696.6	21.4	14.6	37.9	25.7	1.77	29.2	29.5	*33.5*	6,930	75.6	80.4	4.7
2003	1,702.6	21.6	14.5	37.2	25.9	1.81	29.2	29.5	*34.4*	6,744	75.8	80.6	5.3
2004	1,710.3	22.3	14.4	36.4	26.2	1.87	29.4	29.7	*34.5*	6,609	76.0	80.8	5.5
2005	1,724.4	22.3	14.2	35.8	26.3	1.87	29.5	29.7	*36.3*	6,418	..	..	6.3
2006	..	23.3[p]	14.5[p]	..	..	1.95[8,p]	29.6[p]	29.7[p]	*38.0*[p]	6,397[8,p]	..	..	5.2[p]

Note: Death figures for England and Wales represent the number of deaths registered in each year up to 1992, and the number of deaths occurring in each year from 1993 to 2005. Provisional death figures for 2006 relate to registrations.
Birth and death figures for England and also for Wales each exclude events for persons usually resident outside England and Wales. These events are, however, included in the totals for England and Wales combined, and for the United Kingdom. From 1981 births to non-resident mothers in Northern Ireland are excluded from the figures for Northern Ireland, and for the United Kingdom.

1 Percentage of children under 16 to working-age population (males 16–64 and females 16–59).

2 Percentage of males 65 and over and females 60 and over to working-age population (males 16–64 and females 16–59).

3 TFR (total fertility rate) is the number of children that would be born to a woman if current patterns of fertility persisted throughout her childbearing life. It is sometimes called the TPFR (total period fertility rate).

4 Standardised to take account of the age structure of the population.

5 Unstandardised and therefore takes no account of the age structure of the population.

6 Per million population. The age-standardised mortality rate makes allowances for changes in the age structure of the population. See Notes to tables.

7 Deaths at age under one year per 1,000 live births.

8 Calculated using 2004–based population projections for 2006.

9 A small number of live birth records for England and Wales in 2006 arrived too late at ONS to be included in the first release published 7 June 2007. The annual and December quarter figures for 2006 are not included. Revised figures are available here: www.statistics.gov.uk/statbase/Product/asp?vlnk=6725

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Table 3.1 Live births: age of mother

England and Wales

Numbers (thousands), rates, mean age and TFRs

Year and quarter	Age of mother at birth: All ages	Under 20	20–24	25–29	30–34	35–39	40 and over	Mean age[1] (years)	Age of mother at birth: All ages	Under 20	20–24	25–29	30–34	35–39	40 and over	Mean age[2] (years)	TFR[3]
	Total live births (numbers)								Age-specific fertility rates[4,5]								
1961	811.3	59.8	249.8	248.5	152.3	77.5	23.3	27.6	89.2	37.3	172.6	176.9	103.1	48.1	15.0	27.4	2.77
1964(max)	876.0	76.7	276.1	270.7	153.5	75.4	23.6	27.2	92.9	42.5	181.6	187.3	107.7	49.8	13.7	27.3	2.93
1966	849.8	86.7	285.8	253.7	136.4	67.0	20.1	26.8	90.5	47.7	176.0	174.0	97.3	45.3	12.5	27.1	2.75
1971	783.2	82.6	285.7	247.2	109.6	45.2	12.7	26.2	83.5	50.6	152.9	153.2	77.1	32.8	8.7	26.6	2.37
1976	584.3	57.9	182.2	220.7	90.8	26.1	6.5	26.4	60.4	32.2	109.3	118.7	57.2	18.6	4.8	26.5	1.71
1977(min)	569.3	54.5	174.5	207.9	100.8	25.5	6.0	26.5	58.1	29.4	103.7	117.5	58.6	18.2	4.4	26.6	1.66
1981	634.5	56.6	194.5	215.8	126.6	34.2	6.9	26.8	61.3	28.1	105.3	129.1	68.6	21.7	4.9	27.0	1.79
1986	661.0	57.4	192.1	229.0	129.5	45.5	7.6	27.0	60.6	30.1	92.7	123.8	78.0	24.6	4.8	27.4	1.77
1991	699.2	52.4	173.4	248.7	161.3	53.6	9.8	27.7	63.6	33.0	89.3	119.4	86.7	32.1	5.3	27.7	1.82
1992	689.7	47.9	163.3	244.8	166.8	56.7	10.2	27.9	63.6	31.7	86.1	117.6	87.4	33.4	5.8	27.8	1.80
1993	673.5	45.1	152.0	236.0	171.1	58.8	10.5	28.1	62.7	30.9	82.5	114.4	87.4	34.1	6.2	27.9	1.76
1994	664.7	42.0	140.2	229.1	179.6	63.1	10.7	28.4	62.0	28.9	79.0	112.2	89.4	35.8	6.4	28.1	1.75
1995	648.1	41.9	130.7	217.4	181.2	65.5	11.3	28.5	60.5	28.5	76.4	108.4	88.3	36.3	6.8	28.2	1.72
1996	649.5	44.7	125.7	211.1	186.4	69.5	12.1	28.6	60.6	29.7	77.0	106.6	89.8	37.5	7.2	28.2	1.74
1997	643.1	46.4	118.6	202.8	187.5	74.9	12.9	28.8	60.0	30.2	76.0	104.3	89.8	39.4	7.6	28.3	1.73
1998	635.9	48.3	113.5	193.1	188.5	78.9	13.6	28.9	59.2	30.9	74.9	101.5	90.6	40.4	7.9	28.3	1.72
1999	621.9	48.4	110.7	181.9	185.3	81.3	14.3	29.0	57.8	30.9	73.0	98.3	89.6	40.6	8.1	28.4	1.70
2000	604.4	45.8	107.7	170.7	180.1	85.0	15.1	29.1	55.9	29.3	70.0	94.3	87.9	41.4	8.3	28.5	1.65
2001	594.6	44.2	108.8	159.9	178.9	86.5	16.3	29.2	54.7	28.0	69.0	91.7	88.0	41.5	8.8	28.6	1.63
2002	596.1	43.5	110.9	153.4	180.5	90.5	17.3	29.3	54.7	27.0	69.2	91.6	89.8	43.0	9.1	28.7	1.65
2003	621.5	44.2	116.6	156.9	187.2	97.4	19.1	29.4	56.8	26.8	71.2	96.4	94.8	46.4	9.8	28.8	1.73
2004	639.7	45.1	121.1	160.0	190.6	102.2	20.8	29.4	58.2	26.9	72.7	98.4	99.4	48.9	10.4	28.9	1.78
2005	645.8	44.8	122.1	164.3	188.2	104.1	22.2	29.5	58.4	26.3	71.7	98.8	100.9	50.3	10.8	29.0	1.80
2006	see footnote 6								see footnote 6								
2002 March	143.3	10.5	26.5	37.4	43.2	21.6	4.1	29.3	53.3	26.4	67.1	90.6	87.1	41.7	8.7	28.7	1.61
June	147.2	10.4	26.7	37.9	45.5	22.4	4.3	29.4	54.1	26.0	66.8	90.7	90.9	42.7	9.0	28.8	1.63
Sept	155.0	11.4	28.9	39.9	46.9	23.4	4.5	29.3	56.4	28.0	71.5	94.7	92.5	44.2	9.4	28.7	1.70
Dec	150.6	11.2	28.8	38.2	45.0	23.0	4.5	29.3	54.8	27.6	71.1	90.5	88.8	43.5	9.3	28.7	1.65
2003 March	147.4	10.9	27.9	37.5	44.0	22.6	4.6	29.3	54.6	26.7	69.0	93.4	90.3	43.7	9.6	28.8	1.66
June	155.1	10.7	28.5	39.3	47.4	24.5	4.7	29.5	56.9	25.9	70.0	97.0	96.3	46.9	9.6	28.9	1.73
Sept	162.8	11.5	30.5	41.0	49.3	25.6	5.0	29.4	59.0	27.6	73.9	100.1	99.1	48.3	10.1	28.9	1.79
Dec	156.0	11.2	29.7	39.1	46.5	24.6	4.8	29.4	56.6	27.0	72.1	95.2	93.5	46.5	9.8	28.8	1.72
2004 March	155.2	11.0	29.3	38.7	46.6	24.7	4.9	29.4	56.8	26.5	70.7	95.8	97.7	47.4	9.8	28.9	1.74
June	157.4	10.7	29.3	39.4	47.7	25.2	5.0	29.5	57.6	25.7	70.9	97.4	100.2	48.5	10.1	29.0	1.77
Sept	165.4	11.7	31.4	41.6	49.0	26.3	5.4	29.4	59.9	27.7	74.9	101.9	101.8	50.1	10.7	28.9	1.84
Dec	161.7	11.6	31.1	40.3	47.2	26.0	5.5	29.4	58.6	27.6	74.3	98.5	98.0	49.4	10.9	28.9	1.80
2005 March	154.3	10.9	29.3	38.9	45.0	24.7	5.4	29.4	56.6	26.0	69.7	94.9	97.8	48.5	10.7	29.0	1.74
June	159.8	10.7	29.6	40.3	47.5	26.2	5.4	29.5	57.9	25.3	69.8	97.2	102.2	50.7	10.6	29.1	1.78
Sept	170.2	11.9	32.5	43.7	49.4	26.9	5.7	29.4	61.1	27.6	75.8	104.2	105.1	51.6	11.1	29.0	1.88
Dec	161.7	11.3	30.7	41.4	46.3	26.3	5.7	29.4	58.0	26.3	71.5	98.8	98.5	50.3	11.0	29.0	1.79
2006 March	159.5	11.1	30.5	40.7	45.3	26.3	5.6	29.5	58.4[p]	26.3[p]	71.9[p]	96.3[p]	102.3[p]	51.9[p]	11.0[p]	29.1	1.80[p]
June	166.2	11.4	31.2	42.9	47.6	27.1	5.9	29.5	60.2[p]	26.6[p]	72.8[p]	100.6[p]	106.4[p]	52.9[p]	11.3[p]	29.1	1.86[p]
Sept	174.9	12.0	33.5	45.6	49.0	28.9	6.0	29.4	62.6[p]	27.8[p]	77.2[p]	105.7[p]	108.2[p]	55.8[p]	11.4[p]	29.1	1.94[p]
Dec	see footnote 6								see footnote 6								

Note: The rates for women of all ages, under 20, and 40 and over are based on the populations of women aged 15–44, 15–19, and 40–44 respectively.

1 Unstandardised and therefore takes no account of the age structure of the population.

2 Standardised to take account of the age structure of the population. This measure is more appropriate for use when analysing trends or making comparisons between different geographies.

3 TFR (total fertility rate) is the number of children that would be born to a woman if current patterns of fertility persisted throughout her childbearing life. It is sometimes called the TPFR (total period fertility rate).

4 Births per 1,000 women in the age group; all quarterly age-specific fertility rates are adjusted for days in the quarter. They are not adjusted for seasonality.

5 Birth rates for 2006 are based on the 2004-based population projections for 2006.

6 A small number of live birth records for England and Wales in 2006 arrived too late at ONS to be included in the first release published 7 June 2007. The annual and December quarter figures for 2006 are not included. Revised figures are available here: www.statistics.gov.uk/statbase/Product/asp?vlnk=6725

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Table 3.2 Live births outside marriage: age of mother and type of registration

England and Wales

Numbers (thousands), mean age and percentages

Year and quarter	Age of mother at birth: All ages	Under 20	20–24	25–29	30–34	35–39	40 and over	Mean[1] age (years)	Age of mother at birth: All ages	Under 20	20–24	25–29	30–34	35–39	40 and over	Registration[2]: Joint: Same[3] address	Joint: Different[3] addresses	Sole
	Live births outside marriage (numbers)								Percentage of total live births in age group							As a percentage of all births outside marriage		
1971	65.7	21.6	22.0	11.5	6.2	3.2	1.1	23.7	*8.4*	*26.1*	*7.7*	*4.7*	*5.7*	*7.0*	*9.0*	*45.5*		*54.5*
1976	53.8	19.8	16.6	9.7	4.7	2.3	0.7	23.3	*9.2*	*34.2*	*9.1*	*4.4*	*5.2*	*8.6*	*10.1*	*51.0*		*49.0*
1981	81.0	26.4	28.8	14.3	7.9	1.3	0.9	23.4	*12.8*	*46.7*	*14.8*	*6.6*	*6.2*	*3.9*	*12.5*	*58.2*		*41.8*
1986	141.3	39.6	54.1	27.7	13.1	5.7	1.1	23.8	*21.4*	*69.0*	*28.2*	*12.1*	*10.1*	*12.6*	*14.7*	*46.6*	*19.6*	*33.8*
1991	211.3	43.4	77.8	52.4	25.7	9.8	2.1	24.8	*30.2*	*82.9*	*44.9*	*21.1*	*16.0*	*18.3*	*21.3*	*54.6*	*19.8*	*25.6*
1992	215.2	40.1	77.1	55.9	28.9	10.9	2.3	25.2	*31.2*	*83.7*	*47.2*	*22.8*	*17.3*	*19.3*	*22.9*	*55.4*	*20.7*	*23.9*
1993	216.5	38.2	75.0	57.5	31.4	11.9	2.5	25.5	*32.2*	*84.8*	*49.4*	*24.4*	*18.4*	*20.2*	*23.5*	*54.8*	*22.0*	*23.2*
1994	215.5	35.9	71.0	58.5	34.0	13.4	2.7	25.8	*32.4*	*85.5*	*50.6*	*25.5*	*18.9*	*21.2*	*25.2*	*57.5*	*19.8*	*22.7*
1995	219.9	36.3	69.7	59.6	37.0	14.4	3.0	26.0	*33.9*	*86.6*	*53.3*	*27.4*	*20.4*	*22.0*	*26.2*	*58.1*	*20.1*	*21.8*
1996	232.7	39.3	71.1	62.3	40.5	16.2	3.2	26.1	*35.8*	*88.0*	*56.5*	*29.5*	*21.7*	*23.4*	*26.7*	*58.1*	*19.9*	*21.9*
1997	238.2	41.1	69.5	63.4	42.2	18.2	3.7	26.2	*37.0*	*88.7*	*58.6*	*31.3*	*22.5*	*24.3*	*28.6*	*59.5*	*19.3*	*21.2*
1998	240.6	43.0	67.8	62.4	43.9	19.6	3.9	*26.3*	*37.8*	*89.1*	*59.7*	*32.3*	*23.3*	*24.8*	*29.0*	*60.9*	*18.3*	*20.8*
1999	241.9	43.0	67.5	61.2	45.0	20.8	4.3	*26.4*	*38.9*	*89.0*	*61.0*	*33.6*	*24.3*	*25.6*	*30.2*	*61.8*	*18.2*	*19.9*
2000	238.6	41.1	67.5	59.1	43.9	22.3	4.7	*26.5*	*39.5*	*89.7*	*62.6*	*34.6*	*24.4*	*26.2*	*31.0*	*62.7*	*18.2*	*19.2*
2001	238.1	39.5	68.1	56.8	45.2	23.3	5.1	26.7	*40.0*	*89.5*	*62.6*	*35.5*	*25.3*	*26.9*	*31.6*	*63.2*	*18.4*	*18.4*
2002	242.0	38.9	70.2	55.8	46.4	25.1	5.6	26.8	*40.6*	*89.5*	*63.3*	*36.4*	*25.7*	*27.7*	*32.2*	*63.7*	*18.5*	*17.8*
2003	257.2	39.9	75.7	58.2	49.2	27.8	6.4	26.9	*41.4*	*90.2*	*64.9*	*37.1*	*26.3*	*28.5*	*33.3*	*63.5*	*19.0*	*17.4*
2004	269.7	41.0	79.8	61.4	50.7	29.7	7.1	27.0	*42.2*	*91.0*	*65.9*	*38.4*	*26.6*	*29.0*	*34.0*	*63.6*	*19.6*	*16.8*
2005	276.5	41.2	82.1	64.4	50.8	30.3	7.7	27.0	*42.8*	*91.8*	*67.2*	*39.2*	*27.0*	*29.1*	*34.8*	*63.5*	*20.2*	*16.3*
2006	see footnote 4								see footnote 4									
2002 March	58.0	9.4	16.7	13.6	10.9	6.0	1.3	26.8	*40.5*	*89.4*	*63.0*	*36.4*	*25.4*	*27.7*	*31.5*	*63.2*	*18.5*	*18.3*
June	58.3	9.3	16.6	13.5	11.4	6.1	1.4	26.8	*39.6*	*89.4*	*62.2*	*35.6*	*25.0*	*27.2*	*31.7*	*64.2*	*18.2*	*17.7*
Sept	63.4	10.2	18.4	14.6	12.3	6.5	1.5	26.8	*40.9*	*89.3*	*63.8*	*36.6*	*26.1*	*27.9*	*32.7*	*63.9*	*18.5*	*17.5*
Dec	62.3	10.0	18.4	14.1	11.9	6.5	1.5	26.8	*41.4*	*89.7*	*64.1*	*36.9*	*26.4*	*28.0*	*32.8*	*63.3*	*18.9*	*17.8*
2003 March	61.0	9.8	18.0	13.9	11.6	6.3	1.5	26.8	*41.4*	*90.1*	*64.5*	*37.0*	*26.9*	*29.1*	*33.3*	*63.0*	*18.9*	*18.1*
June	62.8	9.6	18.3	14.2	12.2	6.9	1.6	27.0	*40.5*	*90.0*	*64.0*	*36.2*	*25.7*	*28.3*	*33.7*	*64.0*	*18.5*	*17.4*
Sept	67.6	10.3	20.0	15.3	13.0	7.3	1.7	26.9	*41.5*	*90.2*	*65.6*	*38.3*	*26.4*	*28.6*	*33.3*	*63.7*	*19.3*	*18.0*
Dec	65.8	10.2	19.5	14.9	12.5	7.3	1.6	26.9	*42.2*	*90.4*	*65.6*	*38.0*	*27.7*	*29.5*	*32.9*	*63.3*	*19.4*	*17.4*
2004 March	65.2	10.1	19.3	14.8	12.5	7.0	1.7	26.9	*42.0*	*91.2*	*65.8*	*38.2*	*26.8*	*28.2*	*34.3*	*63.1*	*19.4*	*17.4*
June	65.2	9.8	19.1	14.9	12.5	7.3	1.7	27.0	*41.4*	*91.0*	*65.1*	*37.7*	*26.2*	*28.8*	*34.5*	*63.9*	*19.5*	*16.6*
Sept	70.2	10.7	20.7	16.1	13.0	7.9	1.8	27.0	*42.4*	*91.2*	*66.1*	*38.6*	*26.5*	*30.0*	*33.5*	*63.7*	*19.7*	*16.6*
Dec	69.1	10.6	20.7	15.7	12.7	7.5	1.9	26.9	*42.7*	*90.6*	*66.6*	*39.0*	*27.0*	*29.0*	*33.9*	*63.6*	*19.8*	*16.6*
2005 March	66.3	10.1	19.6	15.2	12.2	7.3	1.9	27.0	*43.0*	*92.0*	*67.0*	*39.0*	*27.1*	*29.6*	*35.2*	*63.1*	*20.3*	*16.6*
June	66.6	9.8	19.7	15.4	12.5	7.4	1.8	27.0	*41.7*	*91.2*	*66.5*	*38.2*	*26.4*	*28.1*	*33.5*	*63.7*	*19.8*	*16.5*
Sept	73.7	10.9	22.1	17.3	13.4	7.9	2.1	26.9	*43.3*	*92.0*	*68.0*	*39.6*	*27.2*	*29.3*	*35.7*	*63.7*	*20.3*	*16.0*
Dec	69.9	10.4	20.7	16.5	12.6	7.7	2.0	27.0	*43.2*	*92.1*	*67.4*	*39.8*	*27.3*	*29.5*	*34.8*	*63.5*	*20.3*	*16.2*
2006 March	68.7	10.4	20.8	16.0	12.0	7.6	2.0	26.9	*43.1*	*93.2*	*67.9*	*39.4*	*26.5*	*28.9*	*34.4*	*63.1*	*20.9*	*16.0*
June	71.4	10.5	21.2	16.9	12.8	7.8	2.1	27.0	*43.0*	*92.6*	*68.0*	*39.4*	*26.9*	*28.8*	*35.0*	*63.7*	*20.6*	*15.6*
Sept	76.8	11.1	23.1	18.6	13.4	8.4	2.2	27.0	*43.9*	*92.8*	*69.0*	*40.7*	*27.3*	*29.2*	*36.9*	*64.1*	*20.5*	*15.4*
Dec	see footnote 4								see footnote 4									

1 Unstandardised and therefore takes no account of the age structure of the population.

2 Births outside marriage can be registered by both the mother and father (joint) or by the mother alone (sole).

3 Usual address(es) of parents.

4 A small number of live birth records for England and Wales in 2006 arrived too late at ONS to be included in the first release published 7 June 2007. The annual and December quarter figures for 2006 are not included. Revised figures are available here:
www.statistics.gov.uk/statbase/Product/asp?vlnk=6725

Table 4.1 Conceptions: age of woman at conception

England and Wales (residents)

Numbers (thousands) and rates; and percentage terminated by abortion

Year and quarter	Age of woman at conception								
	All ages	Under 16	Under 18	Under 20	20–24	25–29	30–34	35–39	40 and over
(a) numbers (thousands)									
1991	853.7	7.5	40.1	101.6	233.3	281.5	167.5	57.6	12.1
1996	816.9	8.9	43.5	94.9	179.8	252.6	200.0	75.5	14.1
1999	774.0	7.9	42.0	98.8	157.6	218.5	197.1	86.0	16.0
2000	767.0	8.1	41.3	97.7	159.0	209.3	195.3	88.7	17.0
2001	763.7	7.9	41.0	96.0	161.6	199.3	196.7	92.2	17.8
2002	787.0	7.9	42.0	97.1	167.8	199.4	204.3	98.9	19.6
2003	806.8	8.0	42.2	98.6	175.3	199.8	209.0	103.1	20.9
2004	826.8	7.6	42.2	101.3	181.3	205.1	209.6	106.8	22.8
2005[1P]	837.4	7.9	42.2	101.9	184.6	210.1	208.1	109.3	23.4
2003 March	198.2	1.9	10.5	24.5	42.9	49.4	51.2	25.2	4.9
June	198.5	2.1	10.8	24.7	43.2	49.1	51.1	25.2	5.2
Sept	200.1	2.0	10.2	23.7	43.1	49.3	52.8	26.1	5.2
Dec	210.0	2.0	10.7	25.7	46.1	52.0	54.0	26.7	5.6
2004 March	207.9	2.0	10.9	26.2	45.9	51.1	52.6	26.6	5.6
June	200.1	1.9	10.6	25.0	43.7	49.3	50.4	25.9	5.7
Sept	203.6	1.8	10.0	24.0	44.1	50.7	52.7	26.6	5.6
Dec	215.2	1.9	10.8	26.1	47.7	54.0	54.0	27.6	5.8
2005 March[P]	204.6	1.9	10.4	25.1	45.4	50.8	51.0	26.6	5.7
June[P]	204.6	2.0	10.5	25.1	45.2	51.0	50.7	26.9	5.8
Sept[P]	210.7	2.0	10.4	25.3	45.6	53.3	53.1	27.5	6.0
Dec[P]	217.6	2.0	10.9	26.4	48.4	55.1	53.3	28.4	5.8
2006 March[2,3P]	213.6	1.8	10.1	25.1	46.7	53.3	51.7	27.9	6.1
(b) rates (conceptions per thousand women in age group)[4]									
1991	77.7	8.9	44.6	64.1	120.2	135.1	90.1	34.4	6.6
1996	76.2	9.5	46.3	63.2	110.1	127.6	96.3	40.7	8.4
1999	71.9	8.3	45.1	63.1	103.9	118.0	95.3	42.9	9.1
2000	70.9	8.3	43.9	62.5	103.2	115.7	95.3	43.2	9.4
2001	70.3	8.0	42.7	60.8	102.5	114.2	96.7	44.3	9.6
2002	72.2	7.9	42.8	60.3	104.6	119.1	101.6	47.0	10.3
2003	73.7	8.0	42.3	59.8	107.1	122.8	105.9	49.1	10.7
2004	75.3	7.5	41.7	60.3	108.9	126.2	109.4	51.0	11.4
2005[1P]	75.7	7.8	41.3	59.8	108.4	126.3	111.6	52.8	11.4
2003 March	73.5	7.8	42.8	60.8	107.2	121.8	104.5	48.6	10.3
June	72.8	8.3	43.3	60.3	106.1	120.6	103.5	48.0	10.8
Sept	72.5	7.9	40.5	56.8	104.2	120.2	106.4	49.3	10.5
Dec	76.0	7.8	42.5	61.4	110.9	126.8	109.7	50.5	11.2
2004 March	76.2	7.8	43.4	63.1	111.5	126.3	109.1	51.1	11.4
June	73.3	7.7	42.1	60.1	105.8	122.1	105.3	49.8	11.5
Sept	73.7	7.1	39.2	56.8	105.0	123.6	109.8	50.6	11.1
Dec	77.8	7.4	42.4	61.6	113.0	131.1	113.2	52.8	11.4
2005 March[P]	75.2	7.6	41.4	60.0	109.0	124.9	109.9	51.8	11.4
June[P]	74.3	7.9	41.1	59.1	106.8	123.2	108.7	52.0	11.4
Sept[P]	75.6	7.8	40.5	58.9	106.0	126.6	113.4	52.7	11.6
Dec[P]	78.0	7.8	42.3	61.5	112.4	130.1	115.0	54.6	11.2
2006 March[2,3P]	78.2	7.1	40.1	59.6	110.4	127.6	115.1	54.9	12.0
(c) percentage terminated by abortion									
1991	*19.4*	*51.1*	*39.9*	*34.5*	*22.2*	*13.4*	*13.7*	*22.0*	*41.6*
1996	*20.8*	*49.2*	*40.0*	*36.2*	*25.7*	*15.6*	*14.1*	*21.2*	*37.6*
1999	*22.6*	*52.6*	*43.0*	*38.6*	*28.5*	*17.5*	*14.7*	*21.2*	*37.0*
2000	*22.7*	*54.0*	*44.2*	*39.3*	*29.2*	*17.7*	*14.5*	*20.5*	*35.4*
2001	*23.2*	*55.8*	*45.7*	*40.4*	*29.7*	*18.4*	*14.6*	*20.4*	*34.6*
2002	*22.5*	*55.6*	*45.3*	*39.9*	*28.8*	*17.9*	*13.9*	*19.5*	*34.6*
2003	*22.5*	*57.4*	*45.7*	*40.2*	*29.0*	*17.9*	*13.6*	*18.9*	*34.7*
2004	*22.4*	*57.2*	*45.6*	*40.1*	*28.9*	*18.2*	*13.2*	*18.3*	*33.0*
2005[1P]	*22.3*	*57.1*	*46.4*	*40.4*	*28.7*	*18.0*	*13.2*	*17.8*	*33.0*
2003 March	*22.8*	*58.9*	*46.1*	*40.2*	*29.5*	*17.9*	*13.8*	*19.7*	*34.5*
June	*23.1*	*58.3*	*46.2*	*40.9*	*29.3*	*18.4*	*14.2*	*19.2*	*36.1*
Sept	*21.6*	*56.9*	*45.3*	*39.5*	*28.0*	*17.1*	*13.0*	*18.0*	*33.8*
Dec	*22.5*	*55.7*	*45.0*	*40.3*	*29.0*	*18.1*	*13.5*	*18.5*	*34.5*
2004 March	*22.7*	*58.2*	*45.7*	*40.2*	*29.4*	*18.5*	*13.4*	*18.2*	*32.9*
June	*23.0*	*57.2*	*46.3*	*40.8*	*29.2*	*18.6*	*13.7*	*19.2*	*33.5*
Sept	*21.9*	*56.8*	*45.8*	*40.0*	*28.4*	*17.9*	*12.8*	*17.8*	*33.0*
Dec	*22.0*	*56.3*	*44.5*	*39.3*	*28.6*	*17.8*	*13.0*	*18.2*	*32.5*
2005 March[P]	*22.5*	*57.5*	*47.3*	*41.1*	*29.2*	*18.1*	*13.1*	*18.0*	*32.6*
June[P]	*22.7*	*57.1*	*45.8*	*40.3*	*28.9*	*18.6*	*13.9*	*17.9*	*33.8*
Sept[P]	*21.4*	*56.1*	*45.3*	*39.1*	*27.5*	*17.5*	*12.6*	*17.2*	*32.1*
Dec[P]	*22.6*	*57.5*	*47.2*	*41.0*	*29.1*	*18.1*	*13.3*	*18.0*	*33.4*
2006 March[2,3P]	*22.4*	*59.2*	*48.0*	*41.9*	*29.5*	*18.6*	*13.1*	*17.6*	*31.4*

Note: Conception figures are estimates derived from birth registrations and abortion notifications.
Rates for women of all ages, under 16, under 18, under 20 and 40 and over are based on the population of women aged 15–44, 13–15, 15–17, 15–19 and 40–44 respectively.
For a quarterly analysis of conceptions to women under 18 for local authority areas see the National Statistics website, www.statistics.gov.uk

1 Final annual figures for 2005 conceptions are not yet available due to the late arrival at ONS of some stillbirth notifications. It is intended that these figures will be published in HSQ no 36.
2 Figures for June quarter 2006 conceptions are not yet available due to problems with the implementation of Registration On line (RON). Please see In Brief in this publication for details.
3 Figures for conceptions by age for the March quarter of 2006 exclude maternities where the mother's age was not recorded.
4 Conception rates for 2006 are based on the 2004-based population projections for 2006.
p provisional

Table 4.2 Abortions: residents and non-residents; age and gestation (residents only)

England and Wales

Numbers (thousands) and rates; and percentages for gestation weeks

Year and quarter	All ages			All women (residents)										
				Age group							Gestation weeks (percentages)			
	All[1] women	Residents[1]	Non-[1] residents	Under 16	16–19	20–24	25–29	30–34	35–44	45 and over	Under 9	9–12	13–19	20 and over
	Numbers (thousands)										Percentages			
1971	126.8	94.6	32.2	2.3	18.2	24.5	17.3	14.2	15.9	0.5	*16.6*	*57.9*	*21.8*	*1.0*
1976	129.7	101.9	27.8	3.4	24.0	23.6	19.3	14.6	14.7	0.5	*24.8*	*55.8*	*15.0*	*1.1*
1981	162.5	128.6	33.9	3.5	31.4	34.3	21.9	18.7	17.6	0.6	*31.0*	*53.4*	*13.5*	*1.3*
1986	172.3	147.6	24.7	3.9	33.8	45.3	28.7	18.0	17.5	0.4	*33.4*	*53.8*	*11.5*	*1.4*
1991	179.5	167.4	12.1	3.2	31.1	52.7	38.6	23.4	17.9	0.4	*35.2*	*52.9*	*10.6*	*1.2*
1996	177.5	167.9	9.6	3.6	28.8	46.4	39.3	28.2	21.1	0.4	*40.0*	*48.7*	*10.1*	*1.3*
1997	179.7	170.1	9.6	3.4	29.9	45.0	40.2	28.9	22.3	0.5	*41.2*	*47.9*	*9.6*	*1.2*
1998	187.4	177.9	9.5	3.8	33.2	45.8	40.4	30.4	23.8	0.5	*41.4*	*47.6*	*9.7*	*1.3*
1999	183.2	173.7	9.5	3.6	32.8	45.0	38.5	29.1	24.1	0.5	*42.5*	*46.5*	*9.5*	*1.4*
2000	185.4	175.5	9.8	3.7	33.2	47.1	37.9	28.7	24.4	0.5	*43.3*	*45.0*	*10.3*	*1.5*
2001	186.3	176.4	9.9	3.7	33.4	48.3	36.5	28.8	25.2	0.5	*42.8*	*45.0*	*10.6*	*1.6*
2002	185.4	175.9	9.5	3.7	33.0	48.4	35.8	28.5	26.0	0.5	*42.2*	*45.2*	*11.0*	*1.6*
2003	190.7	181.6	9.1	4.0	34.2	51.1	36.0	28.7	26.9	0.5	*43.6*	*43.7*	*11.1*	*1.6*
2004	194.5	185.7	8.8	3.8	35.5	52.8	37.8	28.1	27.3	0.5	*46.2*	*41.5*	*10.8*	*1.6*
2005	194.4	186.4	7.9	3.8	35.3	53.3	38.3	27.8	27.2	0.6	*53.6*	*35.7*	*9.3*	*1.4*
2006	201.2	193.7	7.4	4.0	37.3	55.3	40.4	28.2	27.9	0.7	*54.9*	*34.3*	*9.2*	*1.5*
2003 March	50.0	47.6	2.4	1.0	9.1	13.4	9.4	7.5	7.0	0.1	*40.9*	*45.3*	*12.2*	*1.6*
June	47.7	45.4	2.3	1.0	8.5	12.7	9.1	7.2	6.7	0.1	*42.5*	*44.4*	*11.4*	*1.6*
Sept	47.7	44.8	2.3	1.0	8.3	12.5	8.9	7.2	6.7	0.1	*43.3*	*43.9*	*11.2*	*1.5*
Dec	46.0	43.9	2.1	0.9	8.3	12.5	8.6	6.9	6.5	0.1	*47.7*	*41.0*	*9.6*	*1.7*
2004 March	51.1	48.7	2.4	1.0	9.4	13.9	9.8	7.5	7.0	0.1	*41.7*	*44.5*	*12.1*	*1.7*
June	48.9	46.6	2.3	1.0	8.9	13.3	9.5	6.9	6.9	0.1	*43.6*	*43.3*	*11.2*	*1.8*
Sept	48.4	46.3	2.1	1.0	8.9	13.0	9.4	7.0	6.9	0.1	*47.8*	*40.5*	*10.3*	*1.4*
Dec	46.1	44.2	1.9	1.0	8.4	12.6	9.1	6.6	6.5	0.1	*52.0*	*37.2*	*9.5*	*1.3*
2005 March	50.1	47.9	2.1	0.9	9.1	13.9	9.7	7.2	7.0	0.1	*47.2*	*40.4*	*11.0*	*1.4*
June	50.1	48.0	2.1	1.0	9.2	13.9	9.9	7.1	6.9	0.1	*53.8*	*35.6*	*9.2*	*1.4*
Sept	47.0	45.1	1.9	1.0	8.5	12.7	9.3	6.9	6.7	0.1	*56.5*	*33.6*	*8.5*	*1.3*
Dec	47.2	45.3	1.8	0.9	8.6	12.9	9.5	6.7	6.7	0.1	*57.2*	*32.9*	*8.3*	*1.5*
2006 March	52.4	50.4	2.0	1.0	9.8	14.6	10.4	7.2	7.3	0.2	*50.6*	*37.3*	*10.5*	*1.6*
June	51.3	49.3	2.0	1.0	9.4	14.2	10.3	7.2	7.1	0.2	*53.6*	*35.3*	*9.4*	*1.7*
Sept	49.8	47.9	1.8	1.0	9.2	13.6	10.0	7.0	6.9	0.2	*56.5*	*33.0*	*9.0*	*1.5*
December	47.7	46.0	1.6	1.0	8.8	13.0	9.6	6.7	6.7	0.1	*59.5*	*31.3*	*7.9*	*1.3*
2007 March[p]	53.0	51.1	1.9	1.1	10.2	14.7	10.7	7.1	7.1	0.2	*54.2*	*34.9*	*9.3*	*1.5*
Rates (per thousand women residents)	ASR[2] (women 15–44)	Crude rate[3] (women 15–44)												
1971	9.9	10.1	:	2.3	13.9	13.1	10.7	10.0	5.6	0.3				
1976	10.2	10.5	:	2.9	16.9	14.2	10.4	9.2	5.3	0.3				
1981	11.9	12.4	:	3.0	19.4	18.6	13.1	10.1	5.9	0.4				
1986	13.0	13.5	:	3.7	22.0	21.9	15.5	10.8	5.1	0.3				
1991	15.0	15.2	:	3.8	24.0	27.1	18.5	12.6	5.1	0.3				
1996	16.0	15.7	:	3.9	24.2	28.4	19.9	13.6	6.0	0.2				
1997	16.3	15.9	:	3.7	24.4	28.8	20.7	13.8	6.2	0.3				
1998	17.1	16.6	:	4.0	26.8	30.2	21.2	14.6	6.5	0.3				
1999	16.8	16.2	:	3.8	26.3	29.7	20.8	14.1	6.4	0.3				
2000	17.0	16.3	:	3.9	26.9	30.7	20.9	14.1	6.3	0.3				
2001	17.0	16.2	:	3.7	26.6	30.6	20.9	14.2	6.4	0.3				
2002	17.0	16.1	:	3.7	25.8	30.1	21.4	14.2	6.5	0.3				
2003	17.5	16.6	:	3.9	26.1	31.2	22.1	14.6	6.6	0.3				
2004	17.8	16.9	:	3.7	26.5	31.9	23.3	14.7	6.7	0.3				
2005	17.8	17.0	:	3.7	26.3	32.0	23.6	14.5	6.6	0.3				
2006	18.3	17.5	:	3.9	27.3	32.5	24.3	15.1	6.8	0.4				
2003 March	18.3	17.4	:	4.0	28.0	33.0	22.9	15.1	6.9	0.3				
June	17.4	16.6	:	4.0	26.1	31.1	22.3	14.5	6.6	0.3				
Sept	17.2	16.4	:	4.0	25.3	30.6	21.8	14.6	6.6	0.3				
Dec	16.8	16.0	:	3.7	25.2	30.4	21.1	14.2	6.4	0.3				
2004 March	18.7	17.8	:	3.9	28.3	33.8	24.1	15.4	6.9	0.3				
June	17.9	17.0	:	3.8	26.7	32.3	23.3	14.4	6.7	0.3				
Sept	17.8	16.9	:	3.7	26.6	31.5	23.0	14.8	6.8	0.3				
Dec	17.0	16.2	:	3.5	25.0	30.4	22.3	14.2	6.3	0.3				
2005 March	18.4	17.5	:	3.7	27.0	33.5	23.8	15.2	6.8	0.3				
June	18.4	17.5	:	3.8	27.2	33.3	24.1	15.3	6.7	0.3				
Sept	17.3	16.4	:	3.8	25.2	30.5	22.6	14.8	6.5	0.3				
Dec	17.4	16.5	:	3.6	25.4	30.9	23.0	14.4	6.5	0.3				
2006 March	19.3	18.4	:	3.9	29.0	34.8	25.0	15.9	7.0	0.3				
June	18.9	18.0	:	3.9	27.8	33.8	24.7	16.0	6.8	0.4				
Sept	18.3	17.5	:	4.0	27.0	32.2	23.9	15.9	6.7	0.4				
Dec	17.5	16.8	:	4.0	25.9	30.8	22.8	15.3	6.5	0.3				
2007 March[p]	19.2	18.4	:	4.4	29.8	33.7	24.6	16.1	6.9	0.4				

Notes: Rates for under 16 and 45 and over are based on female populations aged 13–15 and 45–49 respectively.
1 Includes cases with not stated age and/or gestation week.
2 Rates for all women residents age-standardised to the European population for ages 15–44.
3 Includes incomplete forms that have been returned to practitioners.
p provisional

Table 5.1 Period expectation of life at birth and selected age

Constituent countries of the United Kingdom

Years

Year	Males: At birth	Males: At age 5	20	30	50	60	70	80	Year	Females: At birth	Females: At age 5	20	30	50	60	70	80
United Kingdom																	
1981	70.8	66.9	52.3	42.7	24.1	16.3	10.1	5.8	1981	76.8	72.7	57.9	48.2	29.2	20.8	13.3	7.5
1986	71.9	67.8	53.2	43.6	24.9	16.8	10.5	6.0	1986	77.7	73.4	58.6	48.8	29.8	21.2	13.8	7.8
1991	73.2	68.9	54.2	44.7	26.0	17.7	11.1	6.4	1991	78.7	74.3	59.5	49.7	30.6	21.9	14.3	8.2
1996	74.3	69.8	55.1	45.6	26.9	18.5	11.6	6.6	1996	79.4	74.9	60.1	50.3	31.2	22.3	14.5	8.3
1997	74.5	70.1	55.4	45.9	27.2	18.8	11.7	6.7	1997	79.6	75.1	60.2	50.4	31.3	22.5	14.6	8.4
1998	74.8	70.3	55.6	46.1	27.4	18.9	11.9	6.7	1998	79.7	75.2	60.4	50.5	31.4	22.6	14.7	8.4
1999	75.0	70.6	55.9	46.3	27.6	19.2	12.0	6.8	1999	79.9	75.4	60.5	50.7	31.6	22.8	14.8	8.5
2000	75.4	70.9	56.2	46.6	28.0	19.5	12.3	7.0	2000	80.2	75.6	60.8	51.0	31.9	23.0	15.0	8.6
2001	75.7	71.2	56.5	46.9	28.3	19.8	12.5	7.1	2001	80.4	75.9	61.0	51.2	32.1	23.2	15.2	8.7
2002	75.9	71.5	56.7	47.2	28.5	20.0	12.6	7.2	2002	80.5	76.0	61.1	51.3	32.2	23.3	15.2	8.7
2003	76.3	71.8	57.0	47.4	28.8	20.2	12.9	7.3	2003	80.7	76.2	61.3	51.5	32.4	23.4	15.3	8.7
2004	76.6	72.1	57.4	47.8	29.0	20.5	13.1	7.4	2004	81.0	76.4	61.5	51.7	32.6	23.6	15.5	8.8
England and Wales																	
1981	71.0	67.1	52.5	42.9	24.3	16.4	10.1	5.8	1981	77.0	72.9	58.1	48.3	29.4	20.9	13.4	7.5
1986	72.1	68.0	53.4	43.8	25.0	16.9	10.5	6.1	1986	77.9	73.6	58.8	49.0	30.0	21.4	13.9	7.9
1991	73.4	69.1	54.4	44.8	26.1	17.8	11.2	6.4	1991	78.9	74.5	59.7	49.9	30.8	22.0	14.4	8.3
1996	74.5	70.1	55.4	45.8	27.1	18.7	11.6	6.6	1996	79.6	75.1	60.2	50.4	31.3	22.5	14.6	8.4
1997	74.8	70.3	55.6	46.1	27.4	18.9	11.8	6.7	1997	79.7	75.2	60.4	50.6	31.5	22.6	14.7	8.4
1998	75.0	70.6	55.8	46.3	27.6	19.1	11.9	6.8	1998	79.9	75.4	60.5	50.7	31.6	22.7	14.8	8.4
1999	75.3	70.8	56.1	46.5	27.8	19.3	12.1	6.9	1999	80.1	75.6	60.7	50.9	31.8	22.9	14.9	8.5
2000	75.6	71.2	56.4	46.9	28.1	19.6	12.3	7.0	2000	80.3	75.8	61.0	51.1	32.0	23.1	15.1	8.6
2001	76.0	71.5	56.7	47.2	28.5	19.9	12.6	7.1	2001	80.6	76.0	61.2	51.4	32.2	23.3	15.2	8.7
2002	76.2	71.7	57.0	47.4	28.7	20.1	12.7	7.2	2002	80.7	76.1	61.3	51.5	32.3	23.4	15.3	8.7
2003	76.5	72.0	57.3	47.7	28.9	20.4	13.0	7.3	2003	80.9	76.4	61.5	51.7	32.5	23.6	15.4	8.8
2004	76.9	72.4	57.6	48.0	29.2	20.6	13.2	7.4	2004	81.1	76.6	61.7	51.9	32.7	23.8	15.6	8.9
England																	
1981	71.1	67.1	52.5	42.9	24.3	16.4	10.1	5.8	1981	77.0	72.9	58.2	48.4	29.4	20.9	13.4	7.5
1986	72.2	68.1	53.4	43.8	25.1	17.0	10.6	6.1	1986	77.9	73.6	58.8	49.0	30.0	21.4	13.9	7.9
1991	73.4	69.1	54.4	44.9	26.2	17.8	11.2	6.4	1991	78.9	74.5	59.7	49.9	30.8	22.0	14.4	8.3
1996	74.5	70.1	55.4	45.9	27.1	18.7	11.7	6.6	1996	79.6	75.1	60.3	50.5	31.3	22.5	14.6	8.4
1997	74.8	70.4	55.6	46.1	27.4	18.9	11.8	6.7	1997	79.8	75.3	60.4	50.6	31.5	22.6	14.7	8.4
1998	75.0	70.6	55.9	46.3	27.6	19.1	12.0	6.8	1998	79.9	75.4	60.6	50.7	31.6	22.7	14.8	8.5
1999	75.3	70.9	56.1	46.6	27.9	19.4	12.1	6.9	1999	80.1	75.6	60.8	50.9	31.8	22.9	14.9	8.5
2000	75.7	71.2	56.5	46.9	28.2	19.6	12.4	7.0	2000	80.4	75.8	61.0	51.2	32.0	23.1	15.1	8.6
2001	76.0	71.5	56.8	47.2	28.5	19.9	12.6	7.1	2001	80.6	76.1	61.2	51.4	32.3	23.4	15.3	8.7
2002	76.2	71.8	57.0	47.4	28.7	20.1	12.8	7.2	2002	80.7	76.2	61.3	51.5	32.4	23.4	15.3	8.7
2003	76.6	72.1	57.3	47.7	29.0	20.4	13.0	7.3	2003	80.9	76.4	61.5	51.7	32.6	23.6	15.5	8.8
2004	76.9	72.4	57.6	48.0	29.3	20.7	13.2	7.5	2004	81.2	76.6	61.8	51.9	32.8	23.8	15.6	8.9
Wales																	
1981	70.4	66.5	51.9	42.2	23.6	15.8	9.7	5.6	1981	76.4	72.3	57.5	47.7	28.9	20.5	13.1	7.4
1986	71.6	67.5	52.8	43.2	24.6	16.6	10.3	6.0	1986	77.5	73.3	58.5	48.7	29.7	21.1	13.7	7.8
1991	73.1	68.8	54.1	44.6	25.8	17.6	11.0	6.4	1991	78.8	74.3	59.5	49.7	30.6	21.8	14.3	8.3
1996	73.9	69.4	54.7	45.3	26.6	18.2	11.3	6.4	1996	79.1	74.6	59.7	49.9	30.9	22.1	14.4	8.3
1997	74.3	69.8	55.1	45.6	26.9	18.5	11.6	6.6	1997	79.3	74.8	60.0	50.2	31.1	22.3	14.5	8.4
1998	74.4	70.0	55.2	45.8	27.1	18.6	11.6	6.6	1998	79.4	74.9	60.0	50.2	31.1	22.3	14.5	8.3
1999	74.7	70.2	55.5	46.1	27.4	18.9	11.9	6.8	1999	79.6	75.1	60.2	50.4	31.3	22.5	14.6	8.4
2000	74.9	70.5	55.8	46.3	27.6	19.1	12.0	6.8	2000	79.8	75.3	60.4	50.6	31.5	22.6	14.7	8.4
2001	75.4	70.9	56.2	46.7	28.0	19.5	12.3	7.1	2001	80.1	75.5	60.6	50.8	31.8	22.9	14.9	8.5
2002	75.7	71.1	56.3	46.9	28.2	19.7	12.4	7.1	2002	80.2	75.6	60.7	50.9	31.8	22.9	15.0	8.6
2003	76.0	71.4	56.7	47.1	28.5	20.0	12.6	7.2	2003	80.4	75.8	60.9	51.1	32.0	23.1	15.1	8.6
2004	76.3	71.8	57.0	47.4	28.8	20.3	12.8	7.3	2004	80.7	76.0	61.2	51.3	32.2	23.3	15.2	8.7
Scotland																	
1981	69.1	65.2	50.6	41.1	22.9	15.4	9.6	5.5	1981	75.3	71.2	56.4	46.7	27.9	19.7	12.7	7.2
1986	70.2	66.0	51.4	41.9	23.5	15.8	9.9	5.7	1986	76.2	71.9	57.1	47.3	28.4	20.1	13.0	7.5
1991	71.4	67.1	52.5	43.0	24.6	16.6	10.4	6.1	1991	77.1	72.7	57.9	48.1	29.2	20.7	13.5	7.9
1996	72.2	67.8	53.1	43.7	25.3	17.3	10.9	6.3	1996	77.9	73.3	58.5	48.8	29.8	21.2	13.8	8.0
1997	72.4	68.0	53.3	43.9	25.6	17.5	11.0	6.4	1997	78.0	73.5	58.7	48.9	30.0	21.4	13.9	8.0
1998	72.6	68.2	53.5	44.2	25.8	17.8	11.1	6.5	1998	78.2	73.6	58.8	49.0	30.1	21.4	13.9	8.0
1999	72.8	68.4	53.7	44.4	26.0	18.0	11.3	6.6	1999	78.4	73.8	59.0	49.2	30.3	21.6	14.0	8.1
2000	73.1	68.6	53.9	44.6	26.3	18.2	11.5	6.6	2000	78.6	74.0	59.2	49.4	30.5	21.8	14.1	8.1
2001	73.3	68.8	54.2	44.8	26.6	18.4	11.7	6.8	2001	78.8	74.2	59.4	49.6	30.7	22.0	14.3	8.2
2002	73.5	69.0	54.3	45.0	26.7	18.6	11.8	6.8	2002	78.9	74.3	59.5	49.7	30.8	22.1	14.4	8.2
2003	73.8	69.3	54.6	45.2	27.0	18.8	12.0	6.9	2003	79.1	74.5	59.7	49.9	30.9	22.2	14.5	8.3
2004	74.2	69.7	55.0	45.6	27.3	19.1	12.2	7.0	2004	79.3	74.7	59.9	50.1	31.1	22.4	14.7	8.4
Northern Ireland																	
1981	69.2	65.4	50.9	41.5	23.2	15.6	9.7	5.8	1981	75.5	71.6	56.8	47.1	28.3	20.0	12.8	7.3
1986	70.9	66.8	52.2	42.7	24.2	16.4	10.4	6.2	1986	77.1	72.9	58.1	48.3	29.3	20.8	13.4	7.8
1991	72.6	68.2	53.6	44.1	25.5	17.3	11.0	6.4	1991	78.4	74.0	59.2	49.4	30.3	21.6	14.2	8.3
1996	73.8	69.4	54.7	45.3	26.6	18.2	11.4	6.6	1996	79.2	74.7	59.9	50.0	30.9	22.1	14.4	8.4
1997	74.2	69.7	55.0	45.5	26.8	18.4	11.5	6.6	1997	79.5	75.0	60.2	50.3	31.2	22.4	14.5	8.4
1998	74.3	69.8	55.2	45.7	27.0	18.6	11.6	6.6	1998	79.5	75.0	60.2	50.4	31.2	22.4	14.5	8.2
1999	74.5	70.0	55.4	45.9	27.2	18.8	11.7	6.6	1999	79.6	75.1	60.2	50.4	31.3	22.5	14.6	8.2
2000	74.8	70.4	55.7	46.2	27.6	19.1	11.9	6.6	2000	79.8	75.2	60.4	50.6	31.5	22.6	14.6	8.2
2001	75.2	70.7	56.1	46.6	27.9	19.4	12.3	6.9	2001	80.1	75.6	60.7	50.9	31.8	22.9	14.9	8.4
2002	75.6	71.1	56.4	46.9	28.2	19.7	12.4	7.0	2002	80.4	75.9	61.0	51.2	32.0	23.1	15.1	8.5
2003	75.8	71.4	56.7	47.1	28.4	19.9	12.6	7.2	2003	80.6	76.0	61.1	51.3	32.2	23.3	15.2	8.6
2004	76.0	71.6	56.9	47.4	28.7	20.2	12.8	7.3	2004	80.8	76.3	61.4	51.6	32.5	23.5	15.4	8.7

Note: Figures from 1981 are calculated from the population estimates revised in the light of the 2001 Census. All figures are based on a three-year period.

Table 6.1 Deaths: age and sex

England and Wales

Numbers (thousands) and rates

Year and quarter	All ages	Age group: Under 1[1]	1–4	5–9	10–14	15–19	20–24	25–34	35–44	45–54	55–64	65–74	75–84	85 and over
Numbers (thousands)														
Males														
1976	300.1	4.88	0.88	0.68	0.64	1.66	1.66	3.24	5.93	20.4	52.0	98.7	80.3	29.0
1981	289.0	4.12	0.65	0.45	0.57	1.73	1.58	3.18	5.54	16.9	46.9	92.2	86.8	28.5
1986	287.9	3.72	0.57	0.33	0.38	1.43	1.75	3.10	5.77	14.4	43.6	84.4	96.2	32.2
1991	277.6	2.97	0.55	0.34	0.35	1.21	1.76	3.69	6.16	13.3	34.9	77.2	95.8	39.3
1996	268.7	2.27	0.44	0.24	0.29	0.93	1.41	4.06	5.84	13.6	30.1	71.0	90.7	47.8
1999	264.3	2.08	0.41	0.22	0.28	0.90	1.27	3.85	5.93	13.6	28.7	64.3	90.4	52.3
2000	255.5	1.89	0.34	0.22	0.28	0.87	1.22	3.76	6.05	13.4	27.9	60.6	87.1	51.9
2001	252.4	1.81	0.32	0.19	0.28	0.88	1.27	3.63	6.07	13.3	27.5	57.5	87.0	52.7
2002	253.1	1.81	0.32	0.20	0.28	0.83	1.24	3.47	6.20	12.9	27.7	56.3	88.3	53.6
2003	253.9	1.81	0.31	0.19	0.24	0.81	1.23	3.26	6.32	12.7	28.2	55.1	89.6	54.0
2004	244.1	1.79	0.29	0.17	0.26	0.78	1.15	3.10	6.19	12.2	27.0	52.5	87.3	51.3
2005	243.3	1.87	0.28	0.16	0.25	0.75	1.11	2.89	6.14	12.1	27.3	51.0	84.8	54.7
2006[p]	240.9	1.86	0.29	0.19	0.26	0.84	1.21	3.13	6.32	12.3	27.6	48.9	81.9	56.2
Females														
1976	298.5	3.46	0.59	0.45	0.42	0.62	0.67	1.94	4.04	12.8	29.6	67.1	104.7	72.1
1981	288.9	2.90	0.53	0.30	0.37	0.65	0.64	1.82	3.74	10.5	27.2	62.8	103.6	73.9
1986	293.3	2.59	0.49	0.25	0.27	0.56	0.67	1.65	3.83	8.8	25.8	58.4	106.5	83.6
1991	292.5	2.19	0.44	0.25	0.22	0.46	0.64	1.73	3.70	8.4	21.3	54.2	103.3	95.7
1996	291.5	1.69	0.32	0.18	0.20	0.43	0.51	1.85	3.66	8.9	18.2	50.2	96.7	108.7
1999	291.8	1.55	0.30	0.17	0.22	0.39	0.47	1.67	3.79	9.0	18.0	45.1	93.9	117.2
2000	280.1	1.49	0.25	0.16	0.18	0.38	0.47	1.69	3.87	9.1	17.6	42.2	89.3	113.4
2001	277.9	1.43	0.27	0.19	0.18	0.38	0.47	1.59	3.77	8.9	17.6	40.5	88.8	113.9
2002	280.4	1.31	0.24	0.16	0.19	0.38	0.43	1.61	3.77	8.7	17.7	39.6	90.0	116.3
2003	284.4	1.50	0.28	0.15	0.19	0.35	0.46	1.57	3.86	8.5	18.0	39.0	92.7	117.9
2004	268.4	1.43	0.23	0.13	0.16	0.38	0.46	1.49	3.80	8.1	17.6	36.9	88.3	109.4
2005	269.4	1.39	0.22	0.13	0.18	0.37	0.46	1.42	3.73	8.1	17.8	36.0	86.4	113.2
2006[p]	261.7	1.51	0.27	0.14	0.17	0.38	0.44	1.38	3.80	8.1	17.9	34.5	81.2	111.9
Rates (deaths per 1,000 population in each age group)														
Males														
1976	12.5	16.2	0.65	0.34	0.31	0.88	0.96	0.92	2.09	6.97	19.6	50.3	116.4	243.2
1981	12.0	12.6	0.53	0.27	0.29	0.82	0.83	0.89	1.83	6.11	17.7	45.6	105.2	226.5
1986	11.8	11.0	0.44	0.21	0.23	0.72	0.83	0.88	1.68	5.27	16.6	42.8	101.2	215.4
1991	11.2	8.3	0.40	0.21	0.23	0.72	0.89	0.94	1.76	4.56	13.9	38.1	93.1	205.6
1996	10.7	6.8	0.32	0.14	0.18	0.60	0.85	1.01	1.67	4.06	11.9	34.5	85.0	198.8
1999	10.4	6.5	0.31	0.12	0.16	0.56	0.83	0.99	1.60	3.99	10.9	31.6	79.9	194.4
2000	10.0	6.1	0.26	0.13	0.16	0.54	0.79	0.98	1.59	3.92	10.4	29.7	75.9	187.5
2001	9.9	5.9	0.25	0.11	0.16	0.53	0.80	0.97	1.56	3.89	10.0	28.0	74.0	186.4
2002	9.8	5.9	0.25	0.12	0.16	0.49	0.77	0.95	1.57	3.85	9.7	27.2	73.4	187.5
2003	9.8	5.7	0.25	0.11	0.14	0.46	0.95	0.91	1.58	3.81	9.6	26.3	72.8	190.4
2004	9.4	5.5	0.23	0.10	0.15	0.44	0.68	0.88	1.53	3.67	9.0	24.9	69.8	175.2
2005	9.3	5.7	0.23	0.10	0.14	0.42	0.64	0.82	1.51	3.59	8.9	24.0	67.4	171.6
2006[2,p]	9.1	..[3]	0.23	0.12	0.15	0.47	0.68	0.89	1.54	3.58	8.8	23.0	64.5	164.1
2004 March	10.2	5.9	0.25	0.12	0.15	0.46	0.67	0.92	1.59	3.81	9.4	26.6	76.9	199.3
June	9.1	5.2	0.23	0.12	0.14	0.39	0.74	0.94	1.58	3.72	8.8	24.5	66.9	164.0
Sept	8.7	5.3	0.23	0.10	0.18	0.46	0.71	0.86	1.47	3.58	8.5	23.2	64.5	154.8
Dec	9.5	5.5	0.23	0.08	0.11	0.43	0.58	0.78	1.49	3.58	9.2	25.4	70.8	183.0
2005 March	10.5	6.2	0.26	0.09	0.17	0.46	0.71	0.88	1.56	3.83	9.7	26.6	77.3	201.2
June	9.1	5.5	0.25	0.10	0.18	0.42	0.59	0.83	1.57	3.53	8.8	23.4	65.8	162.9
Sept	8.3	5.3	0.20	0.09	0.12	0.40	0.63	0.85	1.44	3.46	8.3	22.2	59.6	146.0
Dec	9.3	5.6	0.21	0.11	0.11	0.39	0.62	0.73	1.46	3.54	8.8	24.0	66.9	176.9
2006[2] March[p]	10.2	5.3	0.29	0.14	0.16	0.46	0.73	0.95	1.59	3.81	9.5	25.2	73.5	190.4
June[p]	9.0	5.5	0.24	0.10	0.15	0.46	0.70	0.89	1.57	3.60	8.8	23.1	63.6	159.2
Sept[p]	8.4	5.4	0.14	0.11	0.15	0.51	0.59	0.83	1.49	3.42	8.3	21.3	58.5	144.4
Dec[p]	8.9	..[3]	0.26	0.12	0.15	0.44	0.70	0.91	1.54	3.49	8.7	22.3	62.5	162.8
Females														
1976	11.8	12.2	0.46	0.24	0.21	0.35	0.40	0.56	1.46	4.30	10.1	26.0	74.6	196.6
1981	11.3	9.4	0.46	0.19	0.19	0.32	0.35	0.52	1.26	3.80	9.5	24.1	66.2	178.2
1986	11.4	8.0	0.40	0.17	0.17	0.29	0.33	0.47	1.12	3.24	9.2	23.4	62.5	169.4
1991	11.2	6.4	0.33	0.16	0.15	0.29	0.33	0.44	1.05	2.87	8.2	21.8	58.7	161.6
1996	11.0	5.3	0.25	0.10	0.12	0.29	0.31	0.46	1.04	2.63	7.1	20.6	55.8	158.9
1999	11.0	5.1	0.24	0.10	0.13	0.25	0.31	0.43	1.01	2.61	6.7	19.2	53.4	162.6
2000	10.5	5.1	0.20	0.10	0.11	0.25	0.30	0.44	1.00	2.62	6.4	18.1	50.8	155.2
2001	10.4	4.9	0.22	0.12	0.11	0.24	0.30	0.42	0.96	2.57	6.3	17.4	50.1	155.0
2002	10.4	4.5	0.20	0.10	0.11	0.24	0.27	0.44	0.94	2.54	6.0	17.0	50.4	159.4
2003	10.6	4.9	0.24	0.10	0.12	0.21	0.28	0.44	0.95	2.51	5.9	16.7	51.3	165.8
2004	9.9	4.6	0.20	0.09	0.10	0.22	0.27	0.42	0.93	2.39	5.7	15.8	48.6	154.3
2005	9.9	4.4	0.19	0.09	0.11	0.22	0.27	0.40	0.90	2.38	5.6	15.4	48.1	152.7
2006[2,p]	9.6	..[3]	0.22	0.09	0.10	0.22	0.26	0.39	0.92	2.32	5.6	14.8	45.6	145.1
2004 March	11.1	5.3	0.22	0.09	0.10	0.27	0.32	0.42	0.95	2.50	6.0	17.1	53.9	177.0
June	9.4	4.1	0.17	0.08	0.11	0.26	0.27	0.43	0.94	2.41	5.4	15.0	46.5	144.3
Sept	9.1	4.3	0.20	0.06	0.09	0.20	0.24	0.42	0.88	2.27	5.4	14.9	44.6	137.5
Dec	10.1	4.6	0.19	0.11	0.09	0.17	0.27	0.40	0.93	2.36	5.9	16.1	49.5	158.4
2005 March	11.6	4.8	0.22	0.09	0.13	0.20	0.32	0.46	0.95	2.57	6.0	17.3	57.0	184.7
June	9.5	4.7	0.20	0.10	0.10	0.25	0.27	0.37	0.97	2.31	5.5	15.0	46.6	144.2
Sept	8.7	3.9	0.14	0.06	0.09	0.20	0.24	0.36	0.86	2.32	5.4	13.8	42.0	129.7
Dec	9 8	4.2	0.19	0.08	0.11	0.22	0.24	0.41	0.84	2.31	5.6	15.3	46.8	152.7
2006[2] March[p]	11.1	5.0	0.25	0.07	0.08	0.24	0.31	0.39	1.01	2.42	6.1	16.4	52.5	173.6
June[p]	9.5	4.6	0.22	0.10	0.14	0.19	0.25	0.42	0.88	2.34	5.4	14.7	45.4	142.2
Sept[p]	8.6	4.3	0.19	0.10	0.08	0.23	0.23	0.36	0.90	2.26	5.3	13.7	41.1	125.4
Dec[p]	9.2	..[3]	0.24	0.09	0.12	0.23	0.25	0.41	0.89	2.27	5.4	14.3	43.7	140.0

Note: Figures represent the numbers of deaths registered in each year up to 1992 and the numbers of deaths occurring in each year from 1993 to 2005. Provisional figures for 2006 relate to registrations.

1 Rates per 1,000 live births.

2 Death rates for 2006 are based on the 2004-based population projections for 2006.

3 A small number of live birth records for England and Wales in 2006 arrived too late at ONS to be included in the first release published 7 June 2007. The annual and December quarter figures for 2006 are not included. Revised figures are available here: www.statistics.gov.uk/statbase/Product/asp?vlnk=6725

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Table 6.2 Deaths: subnational

Government Office Regions of England

Rates

Year and quarter	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East	London	South East	South West
Total deaths (deaths per 1,000 population of all ages)									
1996	11.7	11.7	11.2	10.7	10.7	10.3	9.4	10.7	11.7
1997	11.6	11.6	11.1	10.5	10.6	10.2	9.0	10.6	11.7
1998	11.9	11.7	11.2	10.8	10.6	10.2	8.8	10.4	11.4
1999	11.6	11.5	10.9	10.7	10.7	10.3	8.7	10.5	11.6
2000	10.8	10.7	10.3	10.0	10.3	9.9	8.2	9.8	11.3
2001	11.1	11.0	10.4	10.1	10.2	9.9	7.9	9.9	11.0
2002	11.2	11.0	10.5	10.2	10.2	10.0	7.8	9.9	11.1
2003	11.3	11.0	10.5	10.3	10.4	9.9	7.8	9.9	11.2
2004	10.9	10.5	10.1	9.7	9.8	9.5	7.2	9.4	10.4
2005	10.7	10.4	9.9	9.8	9.9	9.5	7.0	9.4	10.5
2006	10.5	10.2	9.8	9.7	9.7	9.4	6.8	9.2	10.2
2005 March	12.1	12.0	11.4	11.1	11.5	10.9	8.2	10.9	12.1
June	10.6	10.0	9.6	9.5	9.5	9.2	6.8	9.1	10.2
Sept	9.5	9.2	8.8	8.6	8.8	8.4	6.3	8.3	9.3
Dec	10.7	10.3	9.9	9.9	9.8	9.5	6.9	9.4	10.4
2006[1] March[p]	11.5	11.4	10.8	10.9	11.1	10.8	7.8	10.9	11.7
June[p]	10.6	10.2	9.7	9.6	9.6	9.3	6.7	9.0	10.0
Sept[p]	9.4	9.3	8.9	8.8	8.8	8.3	6.2	8.2	9.2
Dec[p]	10.6	9.9	9.7	9.6	9.4	9.1	6.5	8.9	10.0
Infant mortality (deaths under 1 year per 1,000 live births)									
1996	6.2	6.3	6.5	6.3	6.8	5.3	6.3	5.3	5.5
1997	5.8	6.7	6.5	5.7	7.0	4.8	5.8	5.0	5.8
1998	5.0	6.3	6.9	5.6	6.5	5.0	6.0	4.4	4.8
1999	5.6	6.5	6.3	6.0	6.9	4.6	6.0	4.8	4.7
2000	6.5	6.2	7.3	5.4	6.8	4.4	5.4	4.4	4.7
2001	5.4	5.8	5.5	4.9	6.4	4.5	6.1	4.2	5.4
2002	4.8	5.4	6.1	5.6	6.6	4.3	5.5	4.5	4.3
2003	4.9	5.9	5.7	5.9	7.4	4.5	5.4	4.2	4.1
2004	4.6	5.4	5.8	4.9	6.3	4.2	5.2	3.9	4.5
2005	4.7	5.6	6.0	4.8	6.6	4.0	5.2	3.9	4.5
2006	see footnote 2								
2005 March	4.8	6.1	6.0	7.3	7.1	4.8	5.4	3.9	5.3
June	4.8	5.4	7.0	5.1	6.4	4.2	5.7	3.4	4.4
Sept	4.8	4.8	5.4	3.4	7.5	3.7	4.7	4.0	3.6
Dec	4.5	6.1	5.6	3.8	5.6	3.3	5.0	4.4	4.9
2006 March[p]	5.4	6.0	5.4	5.9	6.6	3.8	5.5	4.3	4.2
June[p]	6.4	5.5	6.1	5.0	7.0	4.3	4.6	4.2	3.7
Sept[p]	5.4	5.2	4.8	5.3	6.7	3.6	4.8	4.2	3.6
Dec	see footnote 2								
Neonatal mortality (deaths under 4 weeks per 1,000 live births)									
1996	4.1	4.0	4.2	4.2	4.9	3.5	4.4	3.5	3.8
1997	3.7	4.3	4.4	3.7	5.0	3.3	3.7	3.4	3.9
1998	3.1	4.1	4.5	3.7	4.8	3.4	4.1	2.9	3.3
1999	4.1	4.4	4.1	4.3	4.8	3.0	4.1	3.2	3.2
2000	4.4	4.3	5.0	4.1	5.0	3.0	3.7	3.1	3.0
2001	3.5	3.8	3.2	3.4	4.4	2.9	4.1	2.9	3.7
2002	3.2	3.6	4.0	4.0	4.8	2.9	3.6	2.9	3.1
2003	3.2	4.1	4.0	4.2	5.1	3.0	3.7	2.8	2.9
2004	2.8	3.6	3.8	3.5	4.7	2.9	3.6	2.8	3.2
2005	2.9	3.8	4.0	3.5	4.9	2.6	3.4	2.7	3.2
2006	see footnote 2								
2005 March	3.3	3.9	4.3	5.1	4.9	2.9	3.2	2.8	3.5
June	3.0	3.5	4.3	3.7	4.9	3.0	3.8	2.1	3.2
Sept	2.7	3.1	3.9	2.8	5.7	2.7	3.5	2.9	2.7
Dec	2.8	4.6	3.5	2.4	4.1	1.8	3.0	3.1	3.5
2006 March[p]	4.1	3.8	4.0	4.2	4.6	2.7	3.4	2.9	3.2
June[p]	4.0	3.8	4.2	3.9	5.1	3.2	3.3	2.7	2.4
Sept[p]	3.4	3.5	3.3	3.9	5.4	2.5	3.5	2.9	2.6
Dec	see footnote 2								
Perinatal mortality (stillbirths and deaths under 1 week per 1,000 total births)									
1996	9.2	8.6	8.3	8.7	10.2	7.5	9.6	7.8	7.5
1997	8.0	8.9	8.3	7.7	9.6	7.3	9.0	7.3	8.7
1998	8.2	8.7	9.2	8.0	9.3	7.4	9.0	6.8	7.3
1999	8.2	8.7	8.3	7.8	9.9	7.0	9.0	6.9	7.8
2000	8.5	8.6	9.6	7.8	9.6	7.1	9.0	6.6	6.6
2001	7.8	8.7	7.5	7.9	9.1	7.1	8.9	6.9	7.2
2002	8.1	8.5	9.0	8.5	10.0	7.5	9.3	6.9	6.8
2003	7.8	9.0	9.1	9.5	10.2	7.3	9.6	7.0	7.0
2004	7.9	8.4	9.4	8.1	9.6	7.6	9.3	7.0	7.2
2005	7.8	8.2	9.4	7.6	9.9	6.4	8.5	6.8	6.8
2006	see footnotes 2 and 3								
2005 March	6.6	8.4	9.7	9.3	9.0	6.9	8.4	6.7	6.8
June	9.2	8.2	10.4	7.6	10.9	7.4	8.8	6.5	7.5
Sept	7.1	7.4	8.6	7.2	11.0	6.1	8.9	7.1	5.7
Dec	8.4	8.9	9.0	6.5	8.8	5.3	7.9	7.0	7.1
2006 March[p]	8.0	7.9	7.1	8.6	9.6	7.1	8.3	7.3	6.5
June[p]	8.7	7.9	8.5	9.1	10.1	6.9	7.8	6.5	6.7
Sept[p]	7.3	7.3	8.1	8.4	9.5	6.3	7.8	6.4	6.2
Dec	see footnotes 2 and 3								

Note: Figures represent the numbers of deaths occurring in each year with the exception of provisional figures for 2006 which relate to registrations.

1 Total deaths rates for 2006 have been calculated using the mid 2005 population estimates published on 24 August 2006

2 A small number of live birth records for England and Wales in 2006 arrived too late at ONS to be included in the first release published 7 June 2007. The annual and December quarter figures for 2006 are not included. Revised figures are available here:
www.statistics.gov.uk/statbase/Product/asp?vlnk=6725

3 A small number of stillbirth records for England and Wales in 2006 arrived too late at ONS to be included. The annual and December quarter figures for 2006 are available here:
www.statistics.gov.uk/statbase/Product/asp?vlnk=6725

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Table 6.3 Deaths: selected causes (International Classification)[1] and sex

England and Wales

Number (thousands) and rate for all deaths and age-standardised rates per million population for selected causes

Year and quarter	All deaths		All causes (age - standardised rates per million population[2])	Malignant neoplasms									
	Number (thousands)	Crude rate per 100,000 population		Oesophagus	Stomach	Colon	Rectosigmoid junction, rectum, and anus	Trachea, bronchus and lung	Melanoma of skin	Other malignant neoplasms of skin	Breast	Cervix uteri	Ovary
			A00–R99 V01–Y89	(C15)	(C16)	(C18)	(C19–C21)	(C33–C34)	(C43)	(C44)	(C50)	(C53)	(C56)
Males													
1971	288.4	1,207	13,466	76	317	187	144	1,066	10	12	4	:	:
1981	289.0	1,196	12,189	90	251	181	135	1,028	17	9	3	:	:
1991	277.6	1,125	10,291	117	185	194	117	842	23	10	3	:	:
1998	264.7	1,064	8,981	129	132	169	95	643	26	8	3	:	:
1999	264.3	1,044	8,862	127	127	161	90	611	27	7	2	:	:
2000	255.5	1,005	8,437	128	118	158	89	592	28	7	2	:	:
2001	252.4	987	8,188	129	111	155	89	570	26	7	3	:	:
2002	253.1	985	8,074	131	109	150	90	559	27	8	3	:	:
2003	253.9	982	7,985	134	101	145	90	538	28	8	2	:	:
2004	244.1	939	7,535	129	95	142	91	520	30	9	2	:	:
2005	243.3	929	7,337	132	92	137	92	513	28	8	2	:	:
2006[p]	240.9	913	7,111	130	83	132	90	508	31	7	2	:	:
2004 March	66.2	1,024	8,194	130	95	145	86	518	27	10	3	:	:
June	58.8	909	7,311	122	98	142	90	511	30	8	2	:	:
Sept	56.8	869	6,989	128	93	142	98	513	30	8	2	:	:
Dec	62.4	955	7,651	136	93	141	91	539	31	11	1	:	:
2005 March	67.8	1,050	8,251	134	92	139	91	528	29	7	3	:	:
June	59.1	906	7,158	135	95	131	94	489	27	7	2	:	:
Sept	55.1	834	6,624	130	95	134	89	499	27	8	3	:	:
Dec	61.3	929	7,333	130	87	145	94	538	28	8	2	:	:
2006[3] March[p]	66.5	1,023	7,918	131	82	133	98	520	32	7	2	:	:
June[p]	59.4	904	7,046	132	82	128	86	502	30	7	2	:	:
Sept[p]	55.5	835	6,524	128	81	132	85	495	29	7	1	:	:
Dec[p]	59.5	894	6,974	131	86	133	91	513	31	8	3	:	:
Females													
1971	278.9	1,104	8,189	40	149	176	79	183	14	6	379	83	126
1981	288.9	1,134	7,425	42	111	157	74	252	16	5	405	69	121
1991	292.5	1,122	6,410	50	74	146	61	300	18	4	401	54	118
1998	290.3	1,108	5,945	49	54	117	47	291	21	3	328	35	116
1999	291.8	1,097	5,929	52	51	115	46	289	20	3	319	33	111
2000	280.1	1,049	5,655	51	48	107	45	285	21	3	311	33	109
2001	277.9	1,038	5,543	48	46	103	45	283	20	3	308	31	112
2002	280.4	1,044	5,526	51	44	104	44	284	19	3	302	29	112
2003	284.4	1,055	5,578	50	42	98	46	285	20	3	293	27	108
2004	268.4	992	5,259	48	42	96	47	284	19	3	285	27	102
2005	269.4	990	5,188	48	39	96	46	290	21	3	284	26	102
2006[p]	261.7	957	4,997	48	35	93	46	299	19	4	277	24	98
2004 March	74.4	1,105	5,795	51	38	97	46	292	21	3	287	28	105
June	63.4	942	5,022	46	41	94	47	265	18	4	284	25	97
Sept	61.8	908	4,863	50	43	95	45	281	19	3	276	27	102
Dec	68.9	1,013	5,359	46	44	100	49	299	20	2	293	28	101
2005 March	77.9	1,162	5,974	50	41	92	47	290	20	4	292	26	101
June	64.7	953	5,033	45	36	96	47	288	22	4	281	27	105
Sept	59.6	868	4,629	50	40	102	43	283	20	3	281	26	99
Dec	67.2	979	5,133	47	39	95	45	300	20	3	281	24	104
2006[3] March[p]	74.5	1,105	5,668	48	40	90	45	309	16	4	296	26	104
June[p]	64.4	945	4,948	46	34	89	46	293	18	4	266	22	101
Sept[p]	59.1	857	4,547	47	33	99	44	289	19	3	272	23	96
Dec[p]	63.7	924	4,840	51	34	95	49	207	21	4	273	23	93

Note: Figures represent the number of deaths registered in each year up to 1992 and the number of deaths occurring in each year from 1993 to 2005. Provisional figures for 2006 relate to registrations.
The rates by cause of death in this table are based on final underlying cause. For further details see the Explanatory Notes in the 'Report: Death registrations in England and Wales, 2004: causes' in HSQ26.

1 The Ninth Revision of the International Classification of Diseases, 1975, came into operation in England and Wales on 1 January 1979. The Tenth Revision of the International Classification of Diseases, 1992, came into operation in England and Wales on 1 January 2001. The cause descriptions and codes relate to ICD-10. For changes to this table see 'In Brief', Health Statistics Quarterly 14.
2 Directly age-standardised to the European Standard Population. See Notes to Tables.
3 Death rates for 2006 are based on the 2004-based population projections for 2006.
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Table 6.3 continued **Deaths: selected causes (International Classification)[1] and sex**

England and Wales

Age-standardised rates[3] per million population for selected causes

Malignant neoplasms													
Prostate	Bladder	Leukaemia	Diabetes mellitus	Ischaemic heart disease	Cerebro vascular diseases	Pneumonia	Bronchitis, emphysema and other chronic obstructive pulmonary disease	Asthma	Gastric and duodenal ulcer	Diseases of the liver	Land transport accidents	Intentional self-harm and events of undetermined intent with inquest verdict 'Open'	Year and quarter
(C61)	(C67)	(C91–C95)	(E10–E14)	(I20–I25)	(I60–I69)	(J12–J18)	(J40–J44)	(J45–J46)	(K25–K27)	(K70–K76)	(V01–V89)	(X60–X84, Y10–Y34)	
													Males
198	124	74	82	3,801	1,541	920	944	21	107	41	209	124	1971
214	121	74	82	3,664	1,141	1,053	683	28	90	58	119	151	1981
304	121	77	131	2,984	940	391	606	31	73	76	125	160	1991
277	99	67	94	2,215	706	720	463	18	60	115	86	152	1998
272	93	67	94	2,095	673	770	474	18	64	119	86	151	1999
260	92	67	88	1,959	622	735	416	17	59	119	86	141	2000
274	93	70	94	1,872	690	388	403	16	55	139	86	134	2001
271	90	68	91	1,782	690	387	396	15	56	144	83	131	2002
272	87	71	91	1,700	661	407	411	14	53	157	84	129	2003
266	84	67	82	1,562	594	359	363	15	50	151	77	125	2004
255	80	67	79	1,466	553	351	367	12	46	156	75	118	2005
249	80	68	74	1,350	519	320	342	10	45	161	83	123	2006[p]
279	86	67	91	1,708	692	465	463	15	54	149	69	137	2004 March
258	82	63	80	1,538	571	332	338	13	49	144	90	133	June
260	88	70	74	1,418	519	278	293	17	44	145	79	127	Sept
267	81	66	85	1,584	594	361	360	14	52	166	71	103	Dec
264	85	67	93	1,673	644	498	489	14	55	167	75	132	2005 March
250	80	65	75	1,442	534	326	356	13	45	149	77	122	June
248	76	65	67	1,289	483	246	270	9	42	144	82	115	Sept
259	78	70	81	1,463	552	339	356	12	43	163	66	104	Dec
256	79	73	86	1,540	611	434	439	11	52	158	83	128	2006[3] March[p]
249	81	63	75	1,348	506	318	350	10	47	164	90	117	June[p]
240	83	67	66	1,207	454	242	271	11	41	158	77	112	Sept[p]
252	80	69	71	1,309	509	287	311	8	41	164	82	134	Dec[p]
													Females
:	32	47	89	1,668	1,352	624	193	25	44	31	82	84	1971
:	35	47	66	1,601	1,012	740	155	30	57	43	41	81	1981
:	34	44	95	1,407	812	325	211	30	46	49	45	51	1991
:	32	41	65	1,055	645	546	226	22	41	64	28	43	1998
:	30	45	65	986	629	591	241	22	39	67	28	45	1999
:	31	39	62	907	577	546	216	20	41	68	24	45	2000
:	29	41	62	878	620	307	220	19	39	77	23	40	2001
:	30	43	65	844	617	316	224	20	37	79	24	41	2002
:	30	39	66	811	606	337	244	20	36	81	24	41	2003
:	28	40	60	738	550	297	214	18	35	83	21	41	2004
:	28	39	57	686	519	298	224	17	32	81	22	38	2005
:	29	36	54	630	480	263	213	16	29	86	24	39	2006[p]
:	27	43	69	806	626	399	283	23	37	84	25	46	2004 March
:	30	39	54	720	530	254	184	16	33	80	21	42	June
:	28	39	55	674	496	227	167	14	32	80	19	42	Sept
:	28	39	63	750	550	307	221	18	37	86	20	36	Dec
:	30	43	65	806	605	453	320	24	36	88	26	40	2005 March
:	29	40	54	674	496	261	207	17	32	74	20	43	June
:	27	35	50	600	462	199	157	12	28	75	21	38	Sept
:	25	40	58	665	514	281	213	16	31	85	21	33	Dec
:	29	42	60	735	553	373	283	19	37	87	25	40	2006[3] March[p]
:	27	34	56	638	478	261	214	16	27	85	27	37	June[p]
:	29	35	51	563	429	187	163	13	27	86	21	41	Sept[p]
:	29	35	51	587	461	232	193	16	25	88	23	38	Dec[p]

See notes opposite.

Report:

Death registrations in England and Wales, 2006: area of residence

This report presents the numbers of deaths from all causes registered in England and Wales in 2006 and standardised mortality ratios (SMRs), both shown by area of usual residence of the deceased. Table 1 presents the data by administrative areas and Table 2 by health areas.

Key Observations

- The highest level of mortality among the Government Office Regions in England in 2006, as represented by the SMR, was in the North East (112), followed by the North West (111). The lowest SMRs were in the South West (91) and South East (93).
- Among local and unitary authorities, the highest SMRs were in Halton UA (130) then Knowsley and Liverpool (both 128), followed by Hartlepool UA (126). The lowest occurred in Kensington and Chelsea (58), followed by Westminster (70) and Hart (74).
- The local authority with the highest SMR for males was in Manchester (133), while the lowest occurred in Kensington and Chelsea (60).
- For females, the highest SMR was in Halton UA (134) and the lowest was in Kensington and Chelsea (57).
- Among the Strategic Health Authorities in England, the highest SMRs occurred in North East (112). The lowest occurred in South Central and South West (both 91).
- In Wales, the highest SMRs were in Bridgend and Blaenau Gwent Local Health Boards (both 117), while the lowest SMR was in Ceredigion (81).

Explanatory Notes

Occurrences and registrations

The year in which a death is registered may not correspond to the year in which the death occurred. Up to 1992 Office for National Statistics (ONS) publications gave numbers of deaths registered in the data year. However, since 1993 most ONS published figures represent the number of deaths that occurred in the data year. In most years (and for most causes of death) this change has little effect on annual totals. However, figures based on date of occurrence provide a more reliable basis for assessing the impact on mortality of external factors (such as flu outbreaks or cold weather), while registrations are more timely.[1] Two annual extracts are, therefore, taken from the ONS deaths database.

- The first annual extract, produced in April following the data year, comprises deaths that were registered in that year. Outputs produced using this extract include this report and a report by cause of death in the summer edition of *Health Statistics Quarterly*.[2] Annual vital statistics tables, released via CD-ROM, are also based on deaths registered each year.
- The second extract, produced in the September following the data year, comprises deaths that occurred in that year. This extract forms the basis for the mortality annual reference volumes in the DH series.

Standardised mortality ratios

To make meaningful comparisons of the level of mortality between different areas, it is necessary to take into account differences in their population structure. In Tables 1 and 2 this is done by using standardised mortality ratios (SMRs). These ratios, expressed in percentage terms, compare mortality in one population with mortality in a 'standard' population, while allowing for differences in age structure. For each area, the ratio is derived by comparing the number of deaths actually registered with the number that would have been expected if the mortality rates by sex and age for England and Wales applied to the area's population. If local mortality rates are high compared with national rates, the number of deaths observed will be greater than the expected number and the SMR will be greater than 100. However, for areas with low mortality, SMRs will be less than 100. More details can be found in ONS annual reference volumes.[3]

As noted above, the SMRs presented here allow for comparisons to be made with a national average as the results take into account differing age structures in the populations of local areas. However, direct comparisons between areas, or between the sexes, can be misleading as

can comparisons across time. For example, where two local areas have identical death rates in every age group, but different population age structures, their SMRs in relation to England and Wales may differ.

As well as presenting results for all persons, separate figures are also given for males and females. The latter were calculated using national age-specific death rates which were particular to each sex and each year. For this reason it is not possible to directly compare results for males and females and for different years.

Population estimates

The SMRs contained in this report are provisional because they are based on the 2005 mid-year population estimates.

The population estimates used in this report are the most up-to-date at the time of its publication. Population estimates for mid-2005 were published on 24 August 2006. The estimates incorporate the findings of the local authority population studies, the results of which were published in July 2004. Further information on population estimates can be found on the National Statistics website (www.statistics.gov.uk/popest).

References

1 Office for National Statistics (2006). *Mortality Statistics: cause 2005*, series DH2 no. **32**, section 2.2.

2 Report: Death registrations in England and Wales, 2006: causes, appears on the National Statistics website as a web supplement to *Health Statistics Quarterly* **34**, at the following address: www.statistics.gov.uk/statbase/Product.asp?vlnk=6725.

3 Office for National Statistics (2005). *Mortality Statistics: general 2004*, series DH1 no. **37**, section 2.6.

Table 1 Deaths by local authority of usual residence, numbers and standardised mortality ratios (SMRs) by sex, 2006 registrations

England and Wales, Government Office Regions (within England), unitary authorities/counties/districts & London boroughs

Area of usual residence	Number of deaths			Standardised mortality ratios		
	Persons	Males	Females	Persons	Males	Females
ENGLAND AND WALES	**502,599**	**240,889**	**261,710**	**100**	**100**	**100**
ENGLAND	**470,326**	**225,315**	**245,011**	**100**	**99**	**100**
NORTH EAST	**26,870**	**12,855**	**14,015**	**112**	**112**	**113**
Darlington UA	1,104	518	586	113	115	112
Hartlepool UA	990	469	521	126	123	130
Middlesbrough UA	1,382	693	689	119	124	114
Redcar and Cleveland UA	1,477	687	790	108	105	111
Stockton-on-Tees UA	1,741	831	910	112	109	115
Durham	**5,330**	**2,546**	**2,784**	**114**	**114**	**114**
Chester-le-Street	526	282	244	110	122	99
Derwentside	1,043	486	557	121	119	122
Durham	777	354	423	105	98	111
Easington	1,028	491	537	118	118	118
Sedgefield	970	463	507	118	116	119
Teesdale	270	137	133	98	104	92
Wear Valley	716	333	383	113	114	112
Northumberland	**3,283**	**1,529**	**1,754**	**102**	**98**	**106**
Alnwick	354	150	204	97	84	110
Berwick-upon-Tweed	286	127	159	83	78	87
Blyth Valley	813	397	416	115	116	114
Castle Morpeth	518	271	247	94	97	92
Tynedale	620	280	340	96	90	101
Wansbeck	692	304	388	115	104	125
Tyne and Wear (Met County)	**11,563**	**5,582**	**5,981**	**114**	**115**	**112**
Gateshead	2,052	997	1,055	113	114	111
Newcastle upon Tyne	2,739	1,319	1,420	112	114	110
North Tyneside	2,149	1,008	1,141	110	110	111
South Tyneside	1,699	830	869	112	115	110
Sunderland	2,924	1,428	1,496	121	122	119
NORTH WEST	**69,826**	**33,375**	**36,451**	**111**	**112**	**110**
Blackburn with Darwen UA	1,285	631	654	122	126	117
Blackpool UA	1,921	910	1,011	122	124	120
Halton UA	1,195	577	618	130	126	134
Warrington UA	1,908	906	1,002	116	113	118
Cheshire	**6,759**	**3,249**	**3,510**	**99**	**98**	**99**
Chester	1,189	563	626	97	95	99
Congleton	858	430	428	94	97	90
Crewe and Nantwich	1,182	571	611	108	109	107
Ellesmere Port & Neston	790	399	391	103	106	100
Macclesfield	1,549	716	833	93	90	96
Vale Royal	1,191	570	621	101	100	103
Cumbria	**5,384**	**2,538**	**2,846**	**101**	**100**	**101**
Allerdale	1,109	524	585	110	108	112
Barrow-in-Furness	779	378	401	107	114	102
Carlisle	1,078	524	554	102	105	100
Copeland	718	327	391	108	101	115
Eden	500	248	252	88	89	87
South Lakeland	1,200	537	663	91	88	94
Greater Manchester (Met County)	**24,975**	**11,966**	**13,009**	**115**	**116**	**113**
Bolton	2,521	1,200	1,321	110	111	110
Bury	1,834	866	968	115	116	115
Manchester	3,999	2,010	1,989	125	133	119
Oldham	2,214	1,024	1,190	120	120	121
Rochdale	1,992	981	1,011	117	121	113
Salford	2,436	1,146	1,290	124	125	123
Stockport	2,674	1,299	1,375	97	102	93
Tameside	2,254	1,050	1,204	120	118	121
Trafford	1,999	927	1,072	99	96	102
Wigan	3,052	1,463	1,589	120	120	120

Note: SMRs are based on mid-2005 population estimates with 2006 live births (used for calculations involving deaths under 1 year).

Table 1 continued **Deaths by local authority of usual residence, numbers and standardised mortality ratios (SMRs) by sex, 2006 registrations**

England and Wales, Government Office Regions (within England), unitary authorities/counties/districts & London boroughs

Area of usual residence	Number of deaths			Standardised mortality ratios		
	Persons	Males	Females	Persons	Males	Females
Lancashire	**11,898**	**5,604**	**6,294**	**107**	**106**	**107**
Burnley	988	447	541	123	115	130
Chorley	900	447	453	103	106	100
Fylde	985	443	542	98	95	100
Hyndburn	864	386	478	118	113	123
Lancaster	1,477	701	776	104	108	102
Pendle	863	414	449	106	108	104
Preston	1,240	610	630	115	116	115
Ribble Valley	549	274	275	97	102	93
Rossendale	626	300	326	113	115	111
South Ribble	1,000	466	534	103	99	107
West Lancashire	1,092	499	593	109	103	114
Wyre	1,314	617	697	98	97	99
Merseyside (Met County)	**14,501**	**6,994**	**7,507**	**114**	**118**	**111**
Knowsley	1,499	719	780	128	129	127
Liverpool	4,613	2,228	2,385	128	130	126
Sefton	3,063	1,472	1,591	101	106	97
St Helens	1,751	867	884	112	118	106
Wirral	3,575	1,708	1,867	107	112	103
YORKSHIRE AND THE HUMBER	**49,401**	**23,781**	**25,620**	**104**	**106**	**103**
East Riding of Yorkshire UA	3,402	1,623	1,779	96	95	97
Kingston upon Hull, City of UA	2,582	1,258	1,324	123	125	122
North East Lincolnshire UA	1,659	782	877	108	108	109
North Lincolnshire UA	1,630	782	848	106	105	107
York UA	1,707	815	892	93	95	92
North Yorkshire	**6,093**	**2,849**	**3,244**	**95**	**94**	**96**
Craven	627	292	335	92	91	93
Hambleton	802	375	427	88	84	93
Harrogate	1,564	707	857	94	92	96
Richmondshire	428	195	233	94	89	99
Ryedale	544	276	268	86	88	84
Scarborough	1,431	664	767	104	105	104
Selby	697	340	357	99	98	99
South Yorkshire (Met County)	**12,655**	**6,166**	**6,489**	**106**	**109**	**104**
Barnsley	2,405	1,148	1,257	119	119	118
Doncaster	2,949	1,493	1,456	111	115	107
Rotherham	2,464	1,213	1,251	108	110	105
Sheffield	4,837	2,312	2,525	99	101	97
West Yorkshire (Met County)	**19,673**	**9,506**	**10,167**	**106**	**108**	**104**
Bradford	4,486	2,119	2,367	113	113	113
Calderdale	1,860	920	940	103	110	97
Kirklees	3,690	1,736	1,954	108	107	108
Leeds	6,447	3,174	3,273	100	103	97
Wakefield	3,190	1,557	1,633	110	112	109
EAST MIDLANDS	**41,808**	**20,358**	**21,450**	**102**	**102**	**103**
Derby UA	2,245	1,120	1,125	102	105	100
Leicester UA	2,576	1,251	1,325	117	117	116
Nottingham UA	2,408	1,244	1,164	112	119	106
Rutland UA	286	136	150	75	73	78
Derbyshire	**7,732**	**3,645**	**4,087**	**103**	**101**	**105**
Amber Valley	1,223	565	658	102	100	104
Bolsover	816	401	415	111	113	108
Chesterfield	1,144	538	606	111	109	112
Derbyshire Dales	788	361	427	96	93	99
Erewash	1,132	533	599	107	105	109
High Peak	849	401	448	96	93	99
North East Derbyshire	1,066	500	566	103	98	107
South Derbyshire	714	346	368	97	93	100
Leicestershire	**5,667**	**2,744**	**2,923**	**96**	**94**	**98**
Blaby	745	376	369	89	88	90
Charnwood	1,390	677	713	100	99	100
Harborough	655	306	349	85	78	92

Table 1 continued **Deaths by local authority of usual residence, numbers and standardised mortality ratios (SMRs) by sex, 2006 registrations**

England and Wales, Government Office Regions (within England), unitary authorities/counties/districts & London boroughs

Area of usual residence	Number of deaths			Standardised mortality ratios		
	Persons	Males	Females	Persons	Males	Females
Hinckley and Bosworth	967	440	527	98	91	105
Melton	462	231	231	94	98	91
North West Leicestershire	883	442	441	105	107	103
Oadby and Wigston	565	272	293	100	98	102
Lincolnshire	**7,534**	**3,716**	**3,818**	**101**	**100**	**102**
Boston	707	352	355	107	110	105
East Lindsey	1,803	899	904	104	101	106
Lincoln	877	418	459	109	111	108
North Kesteven	1,009	530	479	94	98	90
South Holland	935	470	465	95	96	95
South Kesteven	1,317	613	704	100	96	104
West Lindsey	886	434	452	98	95	100
Northamptonshire	**5,755**	**2,790**	**2,965**	**102**	**101**	**104**
Corby	535	281	254	125	129	122
Daventry	610	272	338	97	87	107
East Northamptonshire	739	329	410	98	91	105
Kettering	799	376	423	100	100	100
Northampton	1,736	881	855	107	111	102
South Northamptonshire	673	319	354	93	86	100
Wellingborough	663	332	331	99	100	99
Nottinghamshire	**7,605**	**3,712**	**3,893**	**102**	**103**	**102**
Ashfield	1,166	577	589	112	116	108
Bassetlaw	1,166	567	599	109	108	111
Broxtowe	1,039	499	540	99	97	100
Gedling	1,109	553	556	98	100	96
Mansfield	1,055	534	521	112	116	108
Newark and Sherwood	1,153	545	608	102	100	104
Rushcliffe	917	437	480	87	86	88
WEST MIDLANDS	**52,120**	**25,363**	**26,757**	**104**	**105**	**103**
Herefordshire, County of UA	1,863	973	890	90	97	83
Stoke-on-Trent UA	2,540	1,223	1,317	115	118	113
Telford and Wrekin UA	1,292	608	684	104	100	108
Shropshire	**2,934**	**1,418**	**1,516**	**93**	**93**	**93**
Bridgnorth	519	250	269	94	92	96
North Shropshire	638	327	311	102	108	96
Oswestry	401	178	223	97	91	104
Shrewsbury and Atcham	902	447	455	88	93	84
South Shropshire	474	216	258	87	80	95
Staffordshire	**8,104**	**3,884**	**4,220**	**106**	**104**	**107**
Cannock Chase	903	466	437	119	125	112
East Staffordshire	1,064	503	561	110	108	112
Lichfield	939	405	534	103	92	113
Newcastle-under-Lyme	1,209	602	607	99	104	95
South Staffordshire	1,136	529	607	108	103	112
Stafford	1,253	623	630	99	102	96
Staffordshire Moorlands	1,023	477	546	104	99	109
Tamworth	577	279	298	111	107	115
Warwickshire	**5,076**	**2,341**	**2,735**	**100**	**95**	**105**
North Warwickshire	613	267	346	109	97	121
Nuneaton and Bedworth	1,251	596	655	119	115	122
Rugby	871	386	485	99	90	107
Stratford-on-Avon	1,225	561	664	96	92	99
Warwick	1,116	531	585	86	85	87
West Midlands (Met County)	**25,011**	**12,407**	**12,604**	**108**	**112**	**105**
Birmingham	8,865	4,406	4,459	108	112	103
Coventry	2,878	1,422	1,456	106	108	103
Dudley	3,019	1,478	1,541	103	105	102
Sandwell	3,200	1,588	1,612	121	127	116
Solihull	1,825	936	889	91	98	86
Walsall	2,634	1,296	1,338	112	114	110
Wolverhampton	2,590	1,281	1,309	112	113	112

Table 1 continued

Deaths by local authority of usual residence, numbers and standardised mortality ratios (SMRs) by sex, 2006 registrations

England and Wales, Government Office Regions (within England), unitary authorities/counties/districts & London boroughs

Area of usual residence	Number of deaths			Standardised mortality ratios		
	Persons	Males	Females	Persons	Males	Females
Worcestershire	**5,300**	**2,509**	**2,791**	**95**	**93**	**97**
Bromsgrove	921	400	521	97	88	105
Malvern Hills	874	400	474	92	88	96
Redditch	659	323	336	105	104	106
Worcester	771	365	406	96	95	97
Wychavon	1,111	572	539	89	94	85
Wyre Forest	964	449	515	95	93	97
EAST	**51,846**	**24,812**	**27,034**	**95**	**94**	**96**
Luton UA	1,441	729	712	111	109	112
Peterborough UA	1,427	695	732	109	107	110
Southend-on-Sea UA	1,945	860	1,085	104	104	104
Thurrock UA	1,138	538	600	101	101	102
Bedfordshire	**3,214**	**1,562**	**1,652**	**96**	**94**	**98**
Bedford	1,326	650	676	97	98	97
Mid Bedfordshire	954	478	476	94	93	96
South Bedfordshire	934	434	500	97	91	103
Cambridgeshire	**4,902**	**2,366**	**2,536**	**93**	**91**	**95**
Cambridge	903	426	477	97	97	98
East Cambridgeshire	628	308	320	83	82	83
Fenland	1,042	482	560	107	102	112
Huntingdonshire	1,292	635	657	96	95	97
South Cambridgeshire	1,037	515	522	82	82	82
Essex	**12,831**	**6,168**	**6,663**	**95**	**95**	**95**
Basildon	1,526	704	822	106	102	110
Braintree	1,255	595	660	97	97	98
Brentwood	674	312	362	88	86	90
Castle Point	884	415	469	97	92	102
Chelmsford	1,183	561	622	83	81	84
Colchester	1,413	683	730	96	99	94
Epping Forest	1,232	607	625	100	103	98
Harlow	607	307	300	93	97	90
Maldon	602	280	322	101	97	104
Rochford	729	370	359	88	90	85
Tendring	2,087	1,019	1,068	94	97	91
Uttlesford	639	315	324	92	93	91
Hertfordshire	**9,050**	**4,237**	**4,813**	**95**	**92**	**97**
Broxbourne	688	319	369	92	87	98
Dacorum	1,178	572	606	92	92	93
East Hertfordshire	989	473	516	89	87	90
Hertsmere	899	416	483	94	93	96
North Hertfordshire	1,196	552	644	101	99	102
St Albans	1,057	496	561	91	88	93
Stevenage	644	308	336	101	99	103
Three Rivers	754	326	428	89	81	96
Watford	676	315	361	106	104	108
Welwyn Hatfield	969	460	509	98	96	99
Norfolk	**9,040**	**4,347**	**4,693**	**93**	**91**	**94**
Breckland	1,407	641	766	96	89	102
Broadland	1,326	617	709	95	89	100
Great Yarmouth	1,133	529	604	105	102	108
King's Lynn and West Norfolk	1,621	801	820	95	94	96
North Norfolk	1,290	656	634	85	89	82
Norwich	1,161	575	586	94	100	88
South Norfolk	1,102	528	574	83	80	87
Suffolk	**6,858**	**3,310**	**3,548**	**90**	**89**	**91**
Babergh	859	429	430	88	90	86
Forest Heath	424	218	206	83	84	81
Ipswich	1,133	541	592	97	97	97
Mid Suffolk	817	414	403	85	86	85
St Edmundsbury	935	445	490	91	88	94
Suffolk Coastal	1,344	630	714	89	87	91
Waveney	1,346	633	713	90	88	92

Table 1 continued Deaths by local authority of usual residence, numbers and standardised mortality ratios (SMRs) by sex, 2006 registrations

England and Wales, Government Office Regions (within England), unitary authorities/counties/districts & London boroughs

Area of usual residence	Number of deaths			Standardised mortality ratios		
	Persons	Males	Females	Persons	Males	Females
LONDON	**51,203**	**25,259**	**25,944**	**94**	**96**	**93**
Inner London	**16,931**	**8,813**	**8,118**	**96**	**100**	**93**
Camden	1,265	640	625	97	95	98
City of London[1]	32	20	12	:	:	:
Hackney	1,248	704	544	108	123	94
Hammersmith and Fulham	873	447	426	80	84	77
Haringey	1,229	655	574	99	106	91
Islington	1,164	629	535	114	119	108
Kensington and Chelsea	810	420	390	58	60	57
Lambeth	1,658	886	772	113	118	108
Lewisham	1,696	827	869	106	107	105
Newham	1,474	782	692	114	117	111
Southwark	1,476	766	710	94	99	90
Tower Hamlets	1,198	675	523	115	120	110
Wandsworth	1,714	812	902	97	97	97
Westminster	1,094	550	544	70	67	73
Outer London	**34,272**	**16,446**	**17,826**	**93**	**94**	**93**
Barking and Dagenham	1,474	686	788	111	109	112
Barnet	2,461	1,098	1,363	86	83	89
Bexley	1,903	916	987	93	93	93
Brent	1,502	774	728	83	84	82
Bromley	2,598	1,191	1,407	85	84	86
Croydon	2,582	1,228	1,354	98	94	103
Ealing	1,892	987	905	91	93	88
Enfield	2,137	1,013	1,124	94	93	94
Greenwich	1,788	901	887	106	118	97
Harrow	1,565	770	795	85	88	83
Havering	2,198	1,043	1,155	97	97	97
Hillingdon	1,916	1,002	914	95	104	87
Hounslow	1,499	741	758	105	103	107
Kingston upon Thames	1,125	521	604	90	88	93
Merton	1,292	592	700	86	84	88
Redbridge	1,875	874	1,001	93	91	95
Richmond upon Thames	1,323	613	710	87	86	89
Sutton	1,478	666	812	93	91	95
Waltham Forest	1,664	830	834	110	118	104
SOUTH EAST	**75,497**	**35,018**	**40,479**	**93**	**91**	**95**
Bracknell Forest UA	697	326	371	90	87	93
Brighton and Hove UA	2,398	1,187	1,211	98	107	91
Isle of Wight UA	1,678	786	892	91	93	90
Medway UA	2,163	1,049	1,114	113	113	112
Milton Keynes UA	1,402	657	745	98	94	103
Portsmouth UA	1,750	875	875	102	108	96
Reading UA	1,043	488	555	94	92	95
Slough UA	778	419	359	94	99	89
Southampton UA	1,892	952	940	98	103	92
West Berkshire UA	1,100	524	576	90	87	92
Windsor and Maidenhead UA	1,180	557	623	95	93	97
Wokingham UA	1,020	470	550	87	80	94
Buckinghamshire	**3,870**	**1,827**	**2,043**	**89**	**86**	**91**
Aylesbury Vale	1,302	593	709	95	88	102
Chiltern	833	412	421	90	93	87
South Bucks	584	272	312	88	85	91
Wycombe	1,151	550	601	82	81	83
East Sussex	**6,411**	**2,917**	**3,494**	**92**	**92**	**92**
Eastbourne	1,281	552	729	91	90	92
Hastings	1,097	505	592	117	120	114
Lewes	1,047	498	549	79	81	78
Rother	1,377	616	761	93	92	93
Wealden	1,609	746	863	88	86	89
Hampshire	**11,227**	**5,162**	**6,065**	**89**	**85**	**93**
Basingstoke and Deane	1,101	512	589	92	87	96

1 SMRs for City of London and Isles of Scilly have not been calculated because of the very small numbers of deaths and populations in these areas.

Table 1 continued

Deaths by local authority of usual residence, numbers and standardised mortality ratios (SMRs) by sex, 2006 registrations

England and Wales, Government Office Regions (within England), unitary authorities/counties/districts & London boroughs

Area of usual residence	Number of deaths			Standardised mortality ratios		
	Persons	Males	Females	Persons	Males	Females
East Hampshire	1,086	491	595	97	91	102
Eastleigh	984	447	537	92	87	97
Fareham	1,000	456	544	86	81	92
Gosport	769	365	404	102	103	102
Hart	515	248	267	74	71	77
Havant	1,203	560	643	92	88	97
New Forest	1,948	901	1,047	81	78	83
Rushmoor	643	292	351	96	90	101
Test Valley	964	431	533	91	86	95
Winchester	1,014	459	555	85	81	89
Kent	**13,523**	**6,186**	**7,337**	**97**	**93**	**101**
Ashford	936	407	529	90	78	102
Canterbury	1,567	674	893	98	92	103
Dartford	732	338	394	100	95	105
Dover	1,174	533	641	98	94	101
Gravesham	834	367	467	97	90	105
Maidstone	1,319	597	722	98	91	105
Sevenoaks	963	460	503	83	82	83
Shepway	1,175	528	647	99	95	103
Swale	1,225	609	616	109	111	107
Thanet	1,753	810	943	108	108	107
Tonbridge and Malling	890	441	449	90	91	89
Tunbridge Wells	955	422	533	90	87	93
Oxfordshire	**5,114**	**2,481**	**2,633**	**91**	**92**	**91**
Cherwell	1,030	502	528	91	92	90
Oxford	1,033	489	544	94	93	96
South Oxfordshire	1,115	540	575	89	90	89
Vale of White Horse	1,018	509	509	90	92	89
West Oxfordshire	918	441	477	91	92	91
Surrey	**9,459**	**4,261**	**5,198**	**87**	**83**	**91**
Elmbridge	1,030	451	579	80	75	84
Epsom and Ewell	635	277	358	89	84	94
Guildford	1,012	454	558	83	79	87
Mole Valley	781	374	407	83	83	83
Reigate and Banstead	1,266	557	709	98	92	103
Runnymede	712	334	378	90	90	89
Spelthorne	800	403	397	90	92	87
Surrey Heath	596	254	342	87	77	95
Tandridge	724	323	401	84	77	91
Waverley	1,149	481	668	87	78	94
Woking	754	353	401	93	91	95
West Sussex	**8,792**	**3,894**	**4,898**	**93**	**89**	**96**
Adur	731	315	416	95	90	99
Arun	2,147	958	1,189	94	92	94
Chichester	1,355	610	745	91	88	95
Crawley	782	403	379	90	86	95
Horsham	1,148	530	618	88	85	90
Mid Sussex	1,203	510	693	91	83	99
Worthing	1,426	568	858	100	95	103
SOUTH WEST	**51,755**	**24,494**	**27,261**	**91**	**91**	**91**
Bath and North East Somerset UA	1,565	729	836	85	82	88
Bournemouth UA	1,929	855	1,074	92	91	93
Bristol, City of UA	3,505	1,693	1,812	102	105	101
North Somerset UA	2,132	968	1,164	92	88	95
Plymouth UA	2,347	1,136	1,211	101	106	97
Poole UA	1,545	728	817	89	89	89
South Gloucestershire UA	1,939	979	960	89	90	88
Swindon UA	1,579	788	791	106	106	106
Torbay UA	1,671	779	892	90	93	88
Cornwall and Isles of Scilly	**5,677**	**2,700**	**2,977**	**91**	**91**	**91**
Caradon	909	429	480	95	92	98
Carrick	1,014	483	531	86	89	84
Kerrier	984	480	504	91	92	90
North Cornwall	916	440	476	89	88	89
Penwith	771	352	419	93	92	94

Table 1 continued **Deaths by local authority of usual residence, numbers and standardised mortality ratios (SMRs) by sex, 2006 registrations**

England and Wales, Government Office Regions (within England), unitary authorities/counties/districts & London boroughs

Area of usual residence	Number of deaths			Standardised mortality ratios		
	Persons	Males	Females	Persons	Males	Females
Restormel	1,061	502	559	93	92	95
Isles of Scilly[1]	22	14	8	:	:	:
Devon	**8,073**	**3,798**	**4,275**	**88**	**88**	**88**
East Devon	1,842	874	968	88	89	87
Exeter	983	470	513	90	97	84
Mid Devon	703	291	412	86	74	97
North Devon	1,056	513	543	98	99	96
South Hams	897	442	455	87	88	85
Teignbridge	1,390	644	746	84	84	85
Torridge	661	315	346	86	85	88
West Devon	541	249	292	88	87	90
Dorset	**4,659**	**2,203**	**2,456**	**83**	**81**	**85**
Christchurch	625	307	318	80	82	78
East Dorset	967	484	483	75	75	75
North Dorset	636	306	330	82	80	84
Purbeck	496	229	267	84	79	89
West Dorset	1,215	532	683	86	79	93
Weymouth and Portland	720	345	375	93	94	91
Gloucestershire	**5,710**	**2,661**	**3,049**	**94**	**92**	**96**
Cheltenham	1,129	519	610	95	95	96
Cotswold	811	357	454	82	75	88
Forest of Dean	851	420	431	99	102	96
Gloucester	969	460	509	97	94	99
Stroud	1,175	531	644	98	94	102
Tewkesbury	775	374	401	91	91	91
Somerset	**5,369**	**2,548**	**2,821**	**89**	**89**	**89**
Mendip	1,009	464	545	89	86	92
Sedgemoor	1,144	538	606	92	90	94
South Somerset	1,653	799	854	91	91	90
Taunton Deane	1,100	522	578	89	91	87
West Somerset	463	225	238	81	83	79
Wiltshire	**4,055**	**1,929**	**2,126**	**91**	**89**	**92**
Kennet	681	320	361	92	89	94
North Wiltshire	1,133	531	602	98	93	103
Salisbury	1,116	514	602	88	85	90
West Wiltshire	1,125	564	561	86	90	83
WALES	**31,083**	**14,861**	**16,222**	**103**	**104**	**103**
Isle of Anglesey	752	377	375	97	101	94
Gwynedd	1,271	579	692	97	95	99
Conwy	1,518	726	792	101	103	100
Denbighshire	1,177	551	626	101	102	101
Flintshire	1,385	681	704	102	103	102
Wrexham	1,323	592	731	106	101	111
Powys	1,456	711	745	93	91	95
Ceredigion	707	326	381	81	76	86
Pembrokeshire	1,325	638	687	101	101	101
Carmarthenshire	2,190	1,053	1,137	110	111	109
Swansea	2,504	1,182	1,322	105	103	106
Neath Port Talbot	1,590	731	859	111	109	113
Bridgend	1,454	694	760	117	116	118
The Vale of Glamorgan	1,243	574	669	101	96	106
Cardiff	2,663	1,306	1,357	101	104	99
Rhondda, Cynon, Taff	2,437	1,198	1,239	111	117	107
Merthyr Tydfil	566	266	300	112	111	113
Caerphilly	1,635	828	807	108	115	102
Blaenau Gwent	797	377	420	117	121	115
Torfaen	893	417	476	99	97	101
Monmouthshire	882	442	440	92	96	89
Newport	1,315	612	703	99	99	99
Normal residence outside England and Wales	**1,190**	**713**	**477**	..	..	..

1 SMRs for City of London and Isles of Scilly have not been calculated because of the very small numbers of deaths and populations in these areas.

Table 2 **Deaths by health area of usual residence, numbers and standardised mortality ratios (SMRs) by sex, 2006 registrations**

England and Wales, Government Office Regions (within England) and health authorities/boards[1]

Area of usual residence	Number of deaths			Standardised mortality ratios		
	Persons	Males	Females	Persons	Males	Females
ENGLAND AND WALES	**502,599**	**240,889**	**261,710**	**100**	**100**	**100**
ENGLAND	**470,326**	**225,315**	**245,011**	**100**	**99**	**100**
NORTH EAST	**26,870**	**12,855**	**14,015**	**112**	**112**	**113**
North East	26,870	12,855	14,015	112	112	113
NORTH WEST	**69,826**	**33,375**	**36,451**	**111**	**112**	**110**
North West	69,826	33,375	36,451	111	112	110
YORKSHIRE AND THE HUMBER	**49,401**	**23,781**	**25,620**	**104**	**106**	**103**
Yorkshire and The Humber	49,401	23,781	25,620	104	106	103
EAST MIDLANDS	**41,808**	**20,358**	**21,450**	**102**	**102**	**103**
East Midlands	41,808	20,358	21,450	102	102	103
WEST MIDLANDS	**52,120**	**25,363**	**26,757**	**104**	**105**	**103**
West Midlands	52,120	25,363	26,757	104	105	103
EAST	**51,846**	**24,812**	**27,034**	**95**	**94**	**96**
East of England	51,846	24,812	27,034	95	94	96
LONDON	**51,203**	**25,259**	**25,944**	**94**	**96**	**93**
London	51,203	25,259	25,944	94	96	93
SOUTH EAST	**75,497**	**35,018**	**40,479**	**93**	**91**	**95**
South East Coast	42,746	19,494	23,252	94	91	96
South Central	32,751	15,524	17,227	91	90	93
SOUTH WEST	**51,755**	**24,494**	**27,261**	**91**	**91**	**91**
South West	51,755	24,494	27,261	91	91	91
WALES	**31,083**	**14,861**	**16,222**	**103**	**104**	**103**
Anglesey	752	377	375	97	101	94
Gwynedd	1,271	579	692	97	95	99
Conwy	1,518	726	792	101	103	100
Denbighshire	1,177	551	626	101	102	101
Flintshire	1,385	681	704	102	103	102
Wrexham	1,323	592	731	106	101	111
Powys Teaching	1,456	711	745	93	91	95
Ceredigion	707	326	381	81	76	86
Pembrokeshire	1,325	638	687	101	101	101
Carmarthenshire	2,190	1,053	1,137	110	111	109
Swansea	2,504	1,182	1,322	105	103	106
Neath Port Talbot	1,590	731	859	111	109	113
Bridgend	1,454	694	760	117	116	118
Vale of Glamorgan	1,243	574	669	101	96	106
Cardiff	2,663	1,306	1,357	101	104	99
Rhondda Cynon Taff Teaching	2,437	1,198	1,239	111	117	107
Merthyr Tydfil	566	266	300	112	111	113
Caerphilly Teaching	1,635	828	807	108	115	102
Blaenau Gwent	797	377	420	117	121	115
Torfaen	893	417	476	99	97	101
Monmouthshire	882	442	440	92	96	89
Newport	1,315	612	703	99	99	99
Normal residence outside England and Wales	**1,190**	**713**	**477**	..	..	..

Note: SMRs are based on mid-2005 population estimates with 2006 live births (used for calculations involving deaths under 1 year).

1 Strategic Health Authorities in England and Local Health Boards in Wales.

Annual Update:

Mortality statistics 2005: injury and poisoning

Introduction

This update summarises some of the findings from the annual reference volume *Mortality statistics: injury and poisoning 2005* (series DH4 no. 30),[1] which was published in June 2007. It presents data and analysis on the main causes of death from injury and poisoning, causes by age, trends in accidental and suicide deaths and the effect of the late extract of registration. The annual reference volume contains more detailed information on deaths from external causes in England and Wales.

Deaths are classified according to the Tenth Revision of the *International Statistical Classification of Diseases and Related Health Problems* (ICD-10).[2] ICD-10 was introduced for coding cause of death in England and Wales on 1 January 2001. It replaced the Ninth Revision of the International Classification of Diseases (ICD-9), which was used between 1979 and 2000. Consequently, the mortality data presented in DH4 from 2001 onwards are not immediately comparable with those prior to 2001 without first understanding the impact of ICD-10. Further guidance on how to compare ICD-10 outputs with those published previously and the broader implications of the move to ICD-10 can be found at the ICD-10 website[3] and in a Report in *Health Statistics Quarterly* 14.[4] Research examining the specific effect on injury and poisoning of moving to ICD-10 was published in *Health Statistics Quarterly* 19.[5] This research concludes that, overall, external cause mortality rates do not change when ICD-10 is used instead of ICD-9. However, it also notes there are changes for particular causes of death (for example, using ICD-10 terminology, falls and land transport accidents), and the article explains how data can be adjusted to allow trends over time to be analysed.

Injury and poisoning deaths are accidental or violent deaths that are attributed to external causes. They exclude those deaths that have disease and other internal conditions as their underlying cause. Deaths attributed to accidents, poisonings and violence are examined, first, according to the underlying cause of death (external cause) and, secondly, by the nature of injury, or main injury. External cause of injury codes are taken from Chapter XX of ICD-10 (prefixes V01 to Y89) and nature of injury codes are from Chapter XIX (prefixes S00 to T98), or from a smaller number of other codes not within Chapter XIX.

This update presents injury and poisoning data according to an internationally accepted standard framework, known as the International Collaborative Effort on Injury Statistics (ICE) matrix, specifically designed for presenting data on injury.[6, 7] Two aspects of the cause of injury and poisoning deaths are captured by the ICD codes for the underlying cause of death. The first is the intent of the deceased or third party (sometimes called manner of death – accident, suicide, homicide, undetermined) and the second is the mechanism of death (drowning, poisoning, suffocation, transport etc). Presenting information solely on either one of these masks important information on the other factor. Presentation of data using the ICE matrix allows easy access to information on both mechanism and intent. Annex 1 shows the ICD-10 codes used in classifying deaths according to the matrix. The matrix is used in other countries, such as the United States,[7] and has been used to present international comparisons of injury mortality.[8] The matrix has been modified slightly to incorporate accelerated registration deaths as 'probable homicides' in line with the presentation of these deaths in other ONS publications. Deaths from injury and poisoning of undetermined intent have been combined with deaths from suicide, also in line with presentation in other ONS publications.

The tables and figures based on the underlying cause of death that are presented in the update for this year and the previous two years have, therefore, changed from those presented in previous annual updates, where data were presented using the standard tabulation lists, though most of the information can be derived from the matrix tables presented here. All the information previously presented can be found in the annual reference volume.

Main causes of death from injury and poisoning

There were 16,412 deaths from external causes of injury and poisoning in England and Wales in 2005. These deaths comprised 9,851 male deaths (60 per cent) and 6,561 female deaths (40 per cent) and accounted for 3.2 per cent of all deaths occurring in England and Wales in 2005.

More than three-quarters (79 per cent) of female injury and poisoning deaths were unintentional (accidental), compared with 62 per cent for males (Table 1). In 2005, the most common mechanisms for accidental deaths among males were transport and falls (34 and 25 per cent respectively). For females, transport accidents comprised 13 per cent of unintentional deaths. Where the cause of the accident was known, falls were the most common cause of accidental death for females (30 per cent). Thirty-three per cent of male injury and poisoning deaths were due to suicide (deaths from suicide and injury or poisoning of undetermined intent), compared with 17 per cent of female deaths. For males, the most common mechanism for these suicides was suffocation (52 per cent), while for females poisoning was the primary mechanism (43 per cent). It should be noted that the majority of accidental deaths with an unspecified mechanism are thought likely to have been falls and would have been coded as such in ICD-9.[5] Furthermore, deaths attributed to complications of medical and surgical care (Y40-Y84) and sequelae with surgical and medical care as external cause (Y88) are not included in any analysis in this update. There were 373 such deaths in 2005.

Deaths from external causes are also analysed by nature of injury. Table 2 shows that a third of female injury and poisoning deaths resulted from injuries to the hip and/or thigh, which is related to the high proportion of falls. Where the nature of injury was known, the most common injuries for males were to the head or neck (22 per cent). However, nearly a quarter (23 per cent) of male deaths were due to 'other and unspecified effects of external causes and certain early complications of trauma', which includes deaths from drowning, hypothermia, asphyxiation and strangulation.

Causes of death by age

Figures 1 and 2 show death rates for selected age groups. The 'all ages' rate for males was 36.9 deaths per 100,000 population, compared with 23.4 for females. Rates for males were higher than those for females for all age groups. Rates in the 75 and over age group for both males and females were far higher than in other age groups, while those for children aged 0–14 were the lowest. Generally, the mortality rate by age group increased with the rise in age, although for males the rate for the 55–74 age group was below that of the 35–54 age group. The rate for males aged 15–34 was 35.6 per 100,000 population, nearly four times the rate of 9.7 for females.

Table 1 Injury and poisoning deaths by mechanism and intent, 2005

England and Wales

	Intent			
	Unintentional	Suicide & Undetermined	Homicide & probable homicide	Total
Male Mechanism				
Cut/pierce	7	98	73	**178**
Drowning	129	132	2	**263**
Fall[1]	1,480	91	-	**1,571**
Fire/flame, hot object/substance	163	49	9	**221**
Firearm	1	93	14	**108**
Machinery	14	-	-	**14**
Transport	2,061	7	1	**2,069**
Natural/environmental	66	-	-	**66**
Overexertion	3	-	-	**3**
Poisoning[2]	627	777	5	**1,409**
Struck by, against	28	-	3	**31**
Suffocation	276	1,664	9	**1,949**
Other specified	113	160	5	**278**
Unspecified	1,029	153	323	**1,505**
Total	**5,997**	**3,224**	**444**	**9,665**
Female Mechanism				
Cut/pierce	1	16	29	**46**
Drowning	48	91	-	**139**
Fall[1]	1,526	48	-	**1,574**
Fire/flame, hot object/substance	110	20	6	**136**
Firearm	-	5	6	**11**
Machinery	1	-	-	**1**
Transport	679	-	1	**680**
Natural/environmental	63	-	-	**63**
Overexertion	-	-	-	**0**
Poisoning[2]	283	483	2	**768**
Struck by, against	8	-	-	**8**
Suffocation	193	351	29	**573**
Other specified	48	41	2	**91**
Unspecified	2,096	59	128	**2,283**
Total	**5,056**	**1,114**	**203**	**6,373**

1 Falls do not include deaths due to osteoporosis (M80–M81).
2 Poisonings do not include those deaths coded to mental and behavioural disorders (F10–F19).
Note: the totals for males and females do not match the overall totals for deaths from external causes. This is because deaths attributed to complications of medical and surgical care (Y40–Y84) and sequelae with surgical and medical care as external cause (Y88) are not included in this table. Deaths attributed to legal intervention or war (Y35–Y36, Y89.0–Y89.1) are also excluded; there was one such death in 2005.

Table 2 Deaths from external causes of injury and poisoning: nature of injury and sex, 2005

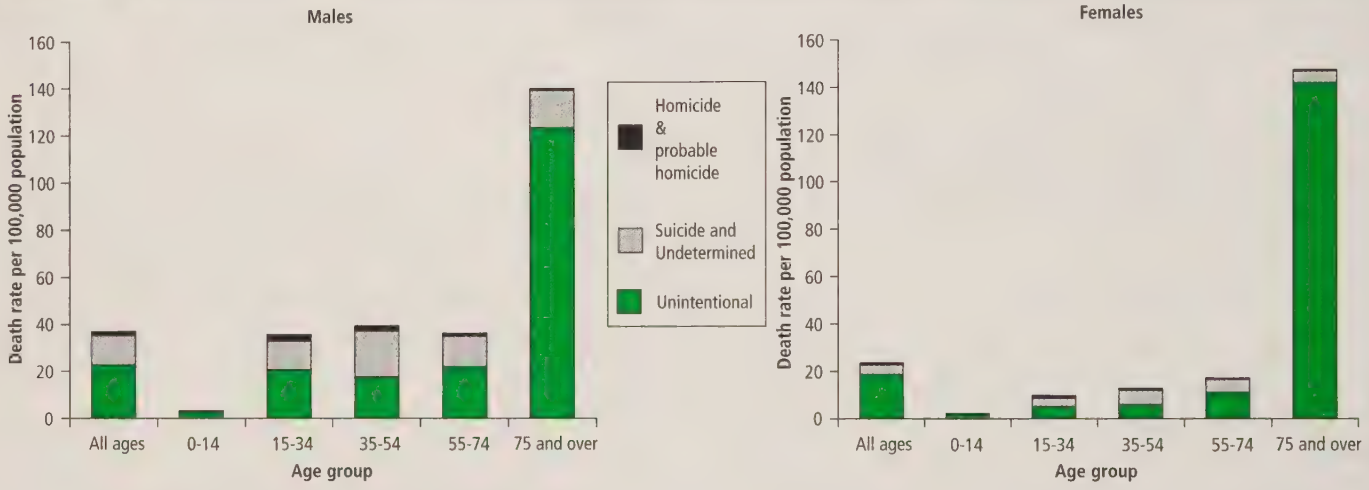
ICD-10 code	Nature of injury	Number of deaths			Percentage of all external cause deaths		
		People	Males	Females	People	Males	Females
	All external causes	**16,412**	**9,851**	**6,561**	*100*	*100*	*100*
S00–T98	Injury, poisoning and certain other consequences of external causes	16,274	9,783	6,491	*99.2*	*99.3*	*98.9*
S00–S19	Injuries to the head and to the neck	3,366	2,180	1,186	*20.5*	*22.1*	*18.1*
S20–S29	Injuries to the thorax	597	434	163	*3.6*	*4.4*	*2.5*
S30–S39	Injuries to the abdomen, lower back, lumbar spine and pelvis	325	148	177	*2.0*	*1.5*	*2.7*
S40–S69	Injuries to the shoulder, arm, wrist and hand	123	55	68	*0.7*	*0.6*	*1.0*
S70–S79	Injuries to the hip and thigh	3,024	912	2,112	*18.4*	*9.3*	*32.2*
S80–S89	Injuries to the knee and lower leg	132	25	107	*0.8*	*0.3*	*1.6*
S90–S99	Injuries to the ankle and foot	11	9	2	*0.1*	*0.1*	*0.0*
T00–T07	Injuries involving multiple body regions	2,280	1,647	633	*13.9*	*16.7*	*9.6*
T08–T14	Injuries to unspecified body region	271	138	133	*1.7*	*1.4*	*2.0*
T15–T19	Effects of foreign body entering through natural orifice	368	200	168	*2.2*	*2.0*	*2.6*
T20–T32	Burns and corrosions	187	112	75	*1.1*	*1.1*	*1.1*
T36–T50	Poisoning by drugs, medicaments and biological substances	1,783	1,098	685	*10.9*	*11.1*	*10.4*
T51–T65	Toxic effects of substances chiefly nonmedicinial as to source	610	452	158	*3.7*	*4.6*	*2.4*
T66–T79	Other and unspecified effects of external causes and certain early complications of trauma	2,875	2,204	671	*17.5*	*22.4*	*10.2*
T80–T88	Complications of surgical and medical care, not elsewhere classified	225	108	117	*1.4*	*1.1*	*1.8*
T90–T98	Sequelae of injuries, of poisoning and other consequences of external causes	97	61	36	*0.6*	*0.6*	*0.5*

Source: DH4 Mortality Statistics: injury and poisoning, Tables 2, 9

Figure 1 shows the contribution of the different intents for injury and poisoning deaths (namely unintentional, suicide and undetermined, and homicide and probable homicide) to mortality rates by age and sex. There was only one death due to legal intervention or war, and this has been excluded from Figure 1. Unintentional deaths were more common than either homicide or suicide deaths at each age group for both males and females, and they comprised 62 and 79 per cent of the 'all ages' rate for males and females respectively. The death rates for those aged 75 and over were predominantly made up of accidental deaths; such deaths comprised 88 and 96 per cent of the rate for males and females respectively. Suicide (deaths from suicide and injury or poisoning of undetermined intent) was the next most prevalent intent for both sexes, and was highest for males and females aged 35–54 (19.5 and 5.9 per 100,000 population respectively). The male death rate for suicide in the 75 and over age group was three times that for females in the same age group.

Figure 2 shows the contribution of the different mechanisms for injury and poisoning deaths to mortality rates by age and sex. Transport was the most common mechanism in the male 'all ages' rate, accounting for more than a fifth (21 per cent) of the rate. Apart from unspecified mechanism, falls were the most common mechanism in the female 'all ages' rate, accounting for 25 per cent of the rate. More than a quarter of the rate for males aged 35–54 consisted of deaths due to suffocation, while over a third of the rate for females in this age group was comprised of deaths due to poisonings. Falls were the predominant mechanism for males

Figure 1 Death rates per 100,000 population by intent: by sex and age, 2005



Note: Deaths attributed to complications of medical and surgical care (Y40–Y84) and sequelae with surgical and medical care as external cause (Y88) are not included in these figures.

Figure 2 Death rates per 100,000 population by mechanism: by sex and age, 2005

Note: Deaths attributed to complications of medical and surgical care (Y40–Y84) and sequelae with surgical and medical care as external cause (Y88) are not included in these figures.

and females aged 55–74, accounting for 23 and 25 per cent of the rate respectively. Among those aged 75 and over, 37 and 53 per cent of the rate for males and females respectively were comprised of deaths with an unspecified mechanism. Where a mechanism was specified for this age group, falls were the most common, accounting for 36 and 33 per cent of the rate for males and females respectively. However, the majority of accidental deaths with an unspecified mechanism are also thought likely to have been falls and would have been coded as such in ICD-9.[5] Thus the figures for falls presented here are probably an underestimate of the true contribution of falls to injury and poisoning mortality.

The 'all other' category comprises those mechanisms listed in Table 1 not presented individually in Figure 2.

Trends 1995–2005

Over the period 1995 to 2005 the mortality rate from all external causes has been fairly constant. The rate in 2005 was 2 per cent lower than in 1995 (see Table 3 of the annual reference volume[1]). Figure 3 shows age-standardised death rates by sex for the most common mechanisms for accidental and suicide deaths from 1995 to 2005.

Although transport accident deaths had the highest rates throughout the period, the rate for such deaths fell by 20 per cent from 60.3 deaths per million population in 1995 to 48.9 in 2005. At the same time, the rate for accidental falls increased by 20 per cent from 30.1 deaths per million population in 1995 to 36.0 in 2005. The rate for deaths due to accidental poisonings reached a peak of 20.7 deaths per million population in 1996 and remained at between 19.5 and 20.2 until 2001. The rate fell again in 2002 to reach its lowest point over the period (15.3 deaths per million population). Accidental suffocation deaths remained stable throughout the period at between 7.1 and 7.8 deaths per million population. The rate for accidental deaths with an unspecified mechanism was 45 per cent higher in 2005 than in 1995.

Suffocation and poisoning were the two most common mechanisms for deaths attributed to suicide (deaths from suicide and injury or poisoning of undetermined intent) over the period 1995 to 2005. The majority of suicides by suffocation are hangings, while suicides by poisoning are a combination of poisonings by drugs and poisonings from motor vehicle exhaust fumes.[9] The rate for poisonings fell by 50 per cent from 44.8 deaths per million population in 1995 to 22.4 in 2005. Conversely, between 1995 and 1999, the rate for suffocation increased by 35 per cent, superseding poisonings as the most common mechanism for suicides from 1998 onwards. Between 1998 and 2005 the rate for suffocation fluctuated at between 34.6 and 38.9 deaths per million population, although the rate in 2005 was the same as the rate recorded in 2004 (36.5 per million population).

The rate for suicides due to drowning fell by 33 per cent between 1995 and 2005, from 5.5 to 3.7 per million population. Suicides due to firearms remained at a low level throughout the period, decreasing steadily by 43 per cent from 3.0 per million population in 1995 to 1.7 in 2005. The rate for deaths from cuts and piercings remained at a similarly low level through the period, fluctuating between 1.5 and 2.2 per million population, and from 2002 was slightly higher than that for firearms.

The late extract of registration

A major change in the handling of vital events by ONS was introduced in 1993 that has enabled annual extracts to be taken for all the deaths occurring in a year, rather than rely simply on annual counts of registrations. A 'standard' extract is taken in the August or September following each data year when there are few registrations still outstanding. However, this does not take account of subsequent changes made for some deaths that are registered and assigned a temporary cause code (which happens when further legal proceedings are to take place).

Account is taken of the more up-to-date information obtained in this way by taking a 'late extract' several months after the standard extract, usually in the April following the standard extract. Normally, late extracts are taken for the most recent year and the three preceding years. Therefore, for the 2005 DH4 volume the late extract was taken for 2002 to 2005 data. In previous volumes of DH4 late extracts were taken for fewer years to exclude 2000 data. This is because coding to ICD-9 ceased in September 2002, so deaths occurring in 2000 received after this date could not be coded to ICD-9. Late extracts were first analysed in the 1996 DH4 volume. Since then they have been used for two purposes:

- to obtain up-to-date information on seasonal mortality from external causes (Table 7 in the annual reference volume)

- to obtain up-to-date information on external cause deaths where the Coroner's inquest had been adjourned and details subsequently became available (Tables 27 and 28 in the annual reference volume)

Table 3 presents the differences between the numbers of deaths captured by the standard and late extracts for 2002 to 2005. It is important to note that because the late extracts were all taken on the same date (25 April 2007), 2002 data have the longest time between the standard and late extracts, allowing more late registrations to be captured. Similarly, 2005 has the shortest time between the extracts, allowing less time for late registrations to be captured. The percentage of those deaths captured by the late extract was higher in 2003 and 2004 than in 2001, despite deaths occurring in 2001 having more time to be included in the late extract.

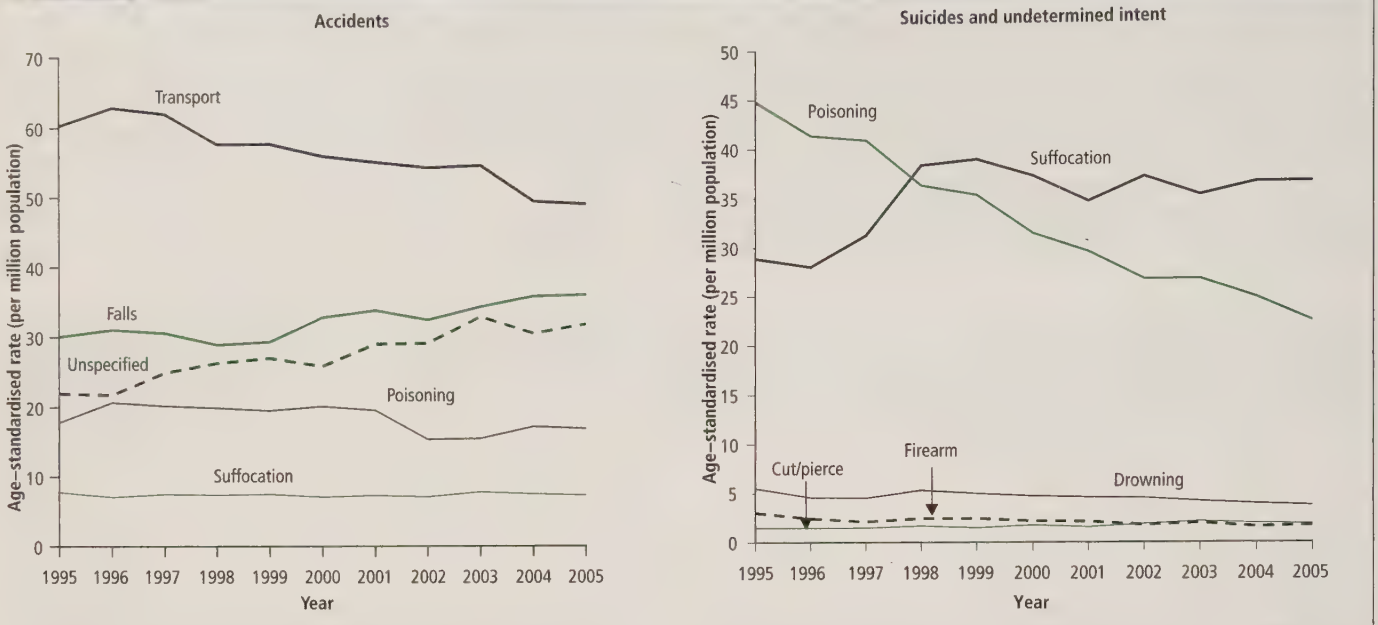
In 2005 a further 931 external cause deaths were captured in the time between the standard extract (taken in September 2006) and the late extract (taken in April 2007). Differences for selected major causes of death are also shown in the table.

Overall, the latest extracts contain about 6 per cent more deaths than the standard extract each year. The number of land transport accidents occurring in 2005 increased by 11 per cent between the two extracts, while the number of assault deaths increased by 5 per cent. The procedure for accelerated registrations have meant that some assaults are now captured in time for the late extract whereas prior to 1978, when the procedure came into force, they would have been registered later. More details can be found in section 2.9 of the annual reference volume and in an article published in *Health Statistics Quarterly* 03.[10] Associated with this relatively large increase is a reduction in the number of deaths assigned to the category of injury with undetermined intent; there has been a decrease of 2 per cent between the standard and late extracts in such deaths in 2005. The higher number of land transport accidents results from the inclusion of late registrations and the amendment of assigned cause of death in the light of new information supplied following the completion of legal proceedings. Accidental poisoning deaths in 2005 increased by 8 per cent between the standard and late extracts, while deaths due to intentional self-harm and falls increased by 6 per cent and 5 per cent, respectively. Numbers of deaths for many of the remaining cause groups change very little, and hence are not shown in the table.

Background notes

The population estimates used were the most up-to-date at the time of publication of this update. Population estimates for mid-2005 were published on 24 August 2006. Revised population estimates for mid-2004 were published on 20 December 2005. Estimates for mid-2003, and revised estimates for mid-2001 and mid-2002, were published on 9 September 2004. Revised estimates for 1992 to 2000 were published on 7 October 2004. All these estimates incorporate the findings of the local authority population studies, the results of which were published in July 2004. Further information on population estimates can be found on the National Statistics website .[11]

Figure 3 Age-standardised[1] death rates per million population: by selected mechanisms for accidental and suicide deaths, 1995–2005



1 These rates are for all ages and are standardised to the European Standard Population, expressed per million population; they allow comparisons between populations with different age structures, including between males and females and over time.

Table 3 Deaths from external causes, using standard and late extracts: selected causes, 2002–2005

ICD-10 code	External cause		Year of occurrence			
			2002	2003	2004	2005
V01–Y89	All external causes	Standard extract[1]	16,139	16,693	16,497	16,412
		Late extract[2]	17,246	17,939	17,707	17,343
		Change	1,107	1,246	1,210	931
		Percentage change	*6.9*	*7.5*	*7.3*	*5.7*
V01–V89	Land transport accidents	Standard extract[1]	2,929	2,943	2,693	2,697
		Late extract[2]	3,278	3,350	3,076	3,000
		Change	349	407	383	303
		Percentage change	*11.9*	*13.8*	*14.2*	*11.2*
W00–W19	Falls	Standard extract[1]	2,509	2,732	2,913	3,006
		Late extract[2]	2,638	2,868	3,051	3,140
		Change	129	136	138	134
		Percentage change	*5.1*	*5.0*	*4.7*	*4.5*
X40–X49	Accidental poisoning by and exposure to noxious substances	Standard extract[1]	814	835	927	910
		Late extract[2]	867	904	1,011	979
		Change	53	69	84	69
		Percentage change	*6.5*	*8.3*	*9.1*	*7.6*
X60–X84, Y10–Y34 with verdict 'open'	Intentional self-harm; and event of undetermined intent with inquest verdict 'open'	Standard extract[1]	4,665	4,659	4,602	4,336
		Late extract[2]	4,960	5,014	4,939	4,593
		Change	295	355	337	257
		Percentage change	*6.3*	*7.6*	*7.3*	*5.9*
X85–Y09, Y33.9 with verdict 'pending'	Assault; and other specified events of undetermined intent with inquest verdict 'pending'	Standard extract[1]	724	700	744	636
		Late extract[2]	837	786	815	670
		Change	113	86	71	34
		Percentage change	*15.6*	*12.3*	*9.5*	*5.3*
Y10–Y34	Event of undetermined intent	Standard extract[1]	1,752	1,774	1,682	1,483
		Late extract[2]	1,705	1,716	1,607	1,458
		Change	–47	–58	–75	–25
		Percentage change	*–2.7*	*–3.3*	*–4.5*	*–1.7*

1 The standard extract is taken about nine months after the end of a calendar data year. The 2005 standard extract was taken on 7 September 2006.
2 The late extracts were taken on 25 April 2007.
Source: DH4 Mortality Statistics: injury and poisoning, Table 27

Appendix A ICE matrix modified for use in this update, ICD-10 codes (as used in Table 1)

Mechanism	Intent			
	Unintentional	Suicide & Undetermined	Homicide & probable homicide	All intents
Cut/pierce	W25–W29, W45	X78, Y28	X99	W25–W29, W45, X78, X99, Y28
Drowning	W65–W74	X71, Y21	X92	W65–W74, X71, X92, Y21
Fall[2]	W00–W19	X80, Y30	Y01	W00–W19, X80, Y01, Y30
Fire/flame, hot object/ substance	X00–X19	X76–X77, Y26–Y27	X97–X98	X00–X19, X76–X77, X97–X98, Y26–Y27
Firearm	W32–W34	X72–X74, Y22–Y24	X93–X95	W32–W34, X72–X74, X93–X95, Y22–Y24
Machinery	W24, W30–W31	-	-	W24, W30–W31
Transport	V01–V99	X82, Y32	Y03	V01–V99, X82, Y03, Y32
Natural/environmental	W42–W43, W53–W64, W92–W99, X20–X39, X51–X57	-	-	W42–W43, W53–W64, W92–W99, X20–X39, X51–X57, X50
Poisoning[2]	X40–X49	X60–X69, Y10–Y19	X85–X90	X40–X49, X60–X69, X85–X90, Y10–Y19
Struck by, against	W20–W22, W50–W52	X79, Y29	Y00, Y04	W20–W22, W50–W52, X79, Y00, Y04, Y29
Suffocation	W75–W84	X70, Y20	X91	W75–W84, X70, X91, Y20
Other specified	W23, W35–W41, W44, W49, W85–W91, X58, Y85, Y86	X75, X81, X83, Y25, Y31, Y33 (excl. Y33.9), Y87.0, Y87.2	X96, Y02, Y05–Y08, Y87.1	W23, W35–W41, W44, W49, W85–W91, X58, X75, X81, X83, X96, Y02, Y05–Y08, Y25, Y31, Y33 (excl. Y33.9), Y85–Y86, Y87.0, Y87.2
Unspecified	X59	X84, Y34, Y89.9	Y09, Y33.9	X59, X84, Y09, Y33.9, Y34, Y89.9
All mechanisms	V01–X59, Y85–Y86	X60–X84, Y10–Y34 (excl, Y33.9), Y87.0, Y87.2, Y89.9	X85–Y09, Y33.9, Y87.1	V01–Y34, Y85–Y87, Y89.3–.9

1 Falls do not include deaths due to osteoporosis (M80–M81).
2 Poisonings do not include those deaths coded to mental and behavioural disorders (F00–F99).
Note: Deaths attributed to complications of medical and surgical care (Y40–Y84) and sequelae with surgical and medical care as external cause (Y88) are not included in this table. Deaths attributed to legal intervention or war (Y35–Y36, Y89.0–Y89.1) are also excluded.

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Annual Update:

Cancer incidence and mortality in the United Kingdom and constituent countries, 2002–04

Introduction

This update summarises information on cancer cases and deaths in the UK during 2002–04. Figures are given for the numbers of newly diagnosed cases of cancer (incidence) and deaths from cancer (mortality), together with the age-standardised incidence and mortality rates (see Technical note 1). The report covers all cancers combined (excluding non-melanoma skin cancer – see Technical note 2), and 21 common cancers. Results are given for the United Kingdom as a whole and for its four constituent countries (see Technical note 3). Numbers and age-standardised rates have been calculated as averages over the three-year period 2002–04 (see Technical note 4).

The major cancers included in the tables and figures presented here accounted for almost 90 per cent of all cases of cancer and just over 80 per cent of all deaths from cancer in the UK in 2002–04. The three most common cancers accounted for around 50 per cent of cases and deaths from cancer.

Key findings

- Around 139,000 males and 139,000 females are newly diagnosed with cancer each year in the UK, corresponding to an incidence rate of 402 and 343 per 100,000 respectively.
- Around 80,000 males and 74,000 females die from cancer each year in the UK, corresponding to a mortality rate of 226 and 159 per 100,000 respectively.
- Breast cancer (in females) had the highest incidence rate in the UK (118 per 100,000), nearly 30 per cent higher than the incidence of prostate cancer (93 per 100,000) in males.
- Wales had the highest overall cancer incidence rate for males, which was 12 per cent higher than the UK average; the mortality rate was 3 per cent higher. In Scotland, the overall cancer incidence rates for males and females were around 10 per cent higher, and the mortality rates were around 15 per cent higher, than the UK average.

Incidence

In the United Kingdom in 2002–04 there were on average around 278,000 newly diagnosed cases of cancer each year, with around 139,000 cases among males and 139,000 among females. Although there were almost identical numbers of cases among males and females, the overall age-standardised incidence rate was higher among males – 402 per 100,000 compared with 343 per 100,000 for females (Table 1).

The three most common cancers were prostate, lung and colorectal for males, and breast, lung and colorectal for females (Figure 1). The incidence of lung cancer was nearly twice as high for males as for females (63 and 35 per 100,000, respectively), and the incidence of colorectal cancer was around 60 per cent higher in males (54 and 34 per 100,000 for males and females, respectively). Overall, breast cancer (in females) had the highest incidence rate (118 per 100,000), nearly 30 per cent higher than the incidence of prostate cancer (93 per 100,000).

Mortality

There were on average 154,000 deaths from cancer each year in the UK in 2002–04, with around 80,000 deaths among males and 74,000 among females. The equivalent age-standardised mortality rates were 226 and 159 per 100,000 among males and females, respectively (Table 2).

The three most common cancers for both sexes were also the most common causes of death from cancer (Figure 2). For females the mortality rates were slightly lower for breast than for lung cancer (29.3 and 29.8 per 100,000, respectively). For males, the mortality rate for lung cancer (56 per 100,000) was twice as high as that for prostate cancer (27 per 100,000). Overall, the highest mortality rate was for lung cancer in males. As with incidence, the mortality rate for lung cancer was nearly twice as high for males as for females.

Variation between countries

Incidence and mortality rates for England were similar to those for the UK since the cases and deaths for England accounted for more than 80 per cent of the total.

Table 1 **Newly diagnosed cases of cancer and directly age-standardised[1] incidence rates per 100,000 population: selected sites by sex and country, 2002–2004[2]**

United Kingdom

ICD10	Site description	Sex	United Kingdom		England		Wales		Scotland		N Ireland	
			Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
C00–C97 x C44	**All malignancies excluding nmsc[3]**	**M**	**138,801**	**401.7**	**114,372**	**394.3**	**8,300**	**449.6**	**12,831**	**446.4**	**3,298**	**393.8**
		F	**138,800**	**343.3**	**113,922**	**338.0**	**7,866**	**366.4**	**13,522**	**378.5**	**3,490**	**344.8**
C00–C14	Lip, mouth & pharynx	M	3,462	10.9	2,734	10.3	195	11.7	445	16.3	89	10.9
		F	1,863	4.8	1,483	4.6	101	5.1	234	6.8	45	4.5
C15	Oesophagus	M	4,817	14.0	3,953	13.7	257	13.9	515	17.9	92	11.2
		F	2,760	5.6	2,225	5.4	166	6.3	315	7.4	54	4.5
C16	Stomach	M	5,422	15.3	4,408	14.8	345	18.2	521	18.0	148	17.5
		F	3,103	6.2	2,472	5.9	212	7.9	332	7.8	87	7.2
C18–C20	Colorectal	M	18,773	53.7	15,336	52.2	1,087	57.9	1,851	63.7	499	59.6
		F	15,622	33.7	12,754	32.8	870	35.2	1,562	38.9	435	39.1
C25	Pancreas	M	3,504	10.1	2,939	10.1	208	11.2	287	9.9	69	8.2
		F	3,693	7.7	3,059	7.6	228	9.0	321	8.0	85	7.2
C32	Larynx	M	1,767	5.4	1,393	5.0	97	5.6	230	8.3	47	5.8
		F	391	0.3	296	0.9	21	1.0	63	1.9	12	1.3
C34	Lung	M	22,136	62.8	17,875	60.4	1,231	65.0	2,510	85.5	520	61.3
		F	15,355	35.1	12,153	33.2	822	35.5	2,031	52.7	348	32.6
C43	Melanoma of skin	M	3,680	11.4	3,037	11.2	195	11.7	351	13.0	97	11.8
		F	4,633	13.0	3,786	12.7	240	13.2	469	15.1	137	14.5
C50	Breast	F	43,089	118.2	35,922	118.4	2,344	120.8	3,795	117.5	1,028	110.4
C53	Cervix	F	2,784	8.2	2,279	8.0	154	9.1	278	9.5	73	8.1
C54	Uterus	F	5,900	15.6	4,914	15.6	346	16.9	479	14.3	162	17.1
C56	Ovary	F	6,649	17.4	5,440	17.1	393	19.5	620	18.2	197	20.3
C61	Prostate	M	32,796	92.7	27,672	93.2	2,025	104.9	2,401	81.5	698	83.3
C62	Testis	M	1,899	6.4	1,547	6.2	98	7.2	195	7.9	60	7.2
C64	Kidney	M	3,594	10.8	2,939	10.6	220	12.5	337	12.1	98	11.8
		F	2,267	5.6	1,822	5.4	148	7.1	229	6.3	67	6.7
C67	Bladder	M	7,124	19.9	5,804	19.2	643	34.1	531	18.0	147	17.4
		F	2,901	5.8	2,342	5.6	250	9.9	255	6.0	54	4.7
C71	Brain	M	2,444	7.7	2,035	7.7	135	8.3	214	8.0	59	7.2
		F	1,763	4.9	1,458	4.9	111	5.9	149	4.6	46	5.0
C81–C96	Lymphomas and Leukaemias	M	12,075	36.2	9,996	35.7	732	41.4	1,062	38.3	285	34.3
		F	9,938	24.2	8,185	23.9	581	26.4	925	26.0	247	23.7
C81–C85	Lymphomas	M	5,925	18.1	4,958	18.0	305	18.0	515	18.8	147	17.9
		F	5,167	13.1	4,281	13.0	257	12.4	480	14.0	149	14.4
C81	Hodgkin's disease	M	828	2.8	693	2.7	44	3.0	74	3.0	17	2.0
		F	620	2.0	510	1.9	29	1.9	63	2.4	18	2.0
C82–C85	Non–Hodgkin's lymphoma	M	5,097	15.3	4,265	15.3	260	15.0	441	15.8	130	15.9
		F	4,547	11.1	3,771	11.0	228	10.4	417	11.6	131	12.4
C90	Multiple myeloma	M	2,007	5.8	1,638	5.6	141	7.6	170	5.9	57	6.6
		F	1,696	3.7	1,386	3.7	119	4.9	154	3.6	37	3.4
C91–C95	Leukaemia	M	3,965	11.9	3,253	11.6	272	15.0	361	13.1	79	9.5
		F	2,976	7.2	2,437	7.0	199	9.0	280	8.1	60	5.8

1 Using the European standard population
2 All numbers and rates in this table are calculated as three-year averages
3 Figures exclude non-melanoma skin cancer (ICD-10 C44)

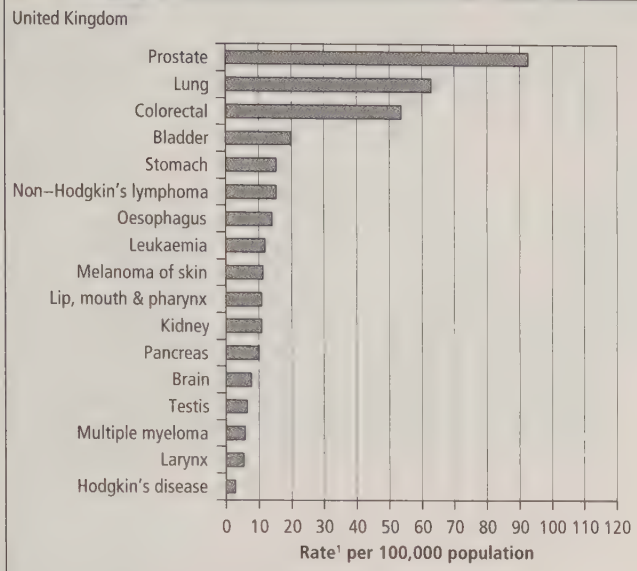
Table 2 Deaths from cancer and directly age-standardised[1] mortality rates per 100,000 population from cancer: selected sites by sex and country, 2002–04[2]

United Kingdom

ICD10	Site description	Sex	United Kingdom		England		Wales		Scotland		N Ireland	
			Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
C00-C97 x C44	**All malignancies excluding nmsc[3]**	**M**	**80,176**	**225.6**	**66,163**	**221.4**	**4,426**	**232.6**	**7,660**	**262.1**	**1,912**	**225.8**
		F	**74,072**	**158.8**	**60,842**	**156.0**	**4,064**	**164.6**	**7,358**	**181.7**	**1,808**	**157.7**
C00-C14	Lip, mouth & pharynx	M	1,279	3.9	1,005	3.7	73	4.3	167	6.1	33	4.0
		F	684	1.6	552	1.5	37	1.6	80	2.1	15	1.3
C15	Oesophagus	M	4,660	13.4	3,813	13.1	255	13.7	491	16.9	100	12.0
		F	2,617	5.1	2,124	4.9	153	5.6	289	6.5	51	4.0
C16	Stomach	M	3,766	10.4	3,061	10.0	235	12.1	371	12.7	99	11.5
		F	2,322	4.4	1,863	4.2	154	5.5	234	5.2	71	5.5
C18-C20	Colorectal	M	8,496	23.9	6,932	23.1	498	26.1	839	28.5	228	27.2
		F	7,412	14.4	6,087	14.1	407	14.5	724	16.5	194	16.2
C25	Pancreas	M	3,389	9.7	2,825	9.6	189	10.0	293	10.1	82	9.7
		F	3,604	7.4	2,993	7.3	207	8.0	313	7.6	91	7.3
C32	Larynx	M	662	1.9	526	1.8	35	2.0	85	3.0	16	1.9
		F	173	0.4	138	0.4	7	0.3	23	0.6	5	*
C34	Lung	M	19,824	55.7	16,055	53.6	1,063	55.4	2,215	75.1	492	57.8
		F	13,503	29.8	10,750	28.3	699	29.3	1,731	43.6	324	29.2
C43	Melanoma of skin	M	938	2.8	776	2.8	59	3.4	81	2.9	21	2.6
		F	793	1.9	666	1.9	49	2.3	62	1.7	17	1.4
C50	Breast	F	12,609	29.3	10,524	29.2	681	30.1	1,108	29.6	295	27.8
C53	Cervix	F	1,106	2.8	904	2.7	63	3.2	107	3.2	31	3.0
C54	Uterus	F	1,100	2.3	893	2.2	74	3.0	114	2.8	19	1.7
C56	Ovary	F	4,496	10.7	3,724	10.7	231	10.4	420	11.0	120	11.1
C61	Prostate	M	10,104	26.9	8,518	26.9	581	28.3	788	26.5	217	25.2
C62	Testis	M	82	0.3	63	0.2	4	*	11	0.4	3	*
C64	Kidney	M	1,990	5.8	1,640	5.7	114	6.3	179	6.3	56	6.8
		F	1,263	2.8	1,025	2.7	69	2.8	137	3.5	32	2.8
C67	Bladder	M	3,205	8.7	2,721	8.8	157	7.8	273	9.0	54	6.5
		F	1,680	3.0	1,398	3.0	91	3.0	167	3.5	24	1.8
C71	Brain	M	1,952	6.1	1,620	6.1	94	5.7	185	6.8	49	5.9
		F	1,408	3.8	1,149	3.7	77	4.0	148	4.3	34	3.5
C81-C96	Lymphomas and Leukaemias	M	6,409	18.3	5,413	18.4	329	17.4	511	17.7	151	17.9
		F	5,501	11.4	4,603	11.5	283	11.1	486	11.8	130	10.7
C81-C85	Lymphomas	M	2,594	7.5	2,210	7.6	113	6.1	204	7.1	65	7.8
		F	2,301	4.9	1,910	4.9	114	4.5	214	5.2	63	5.3
C81	Hodgkin's disease	M	169	0.5	148	0.5	6	*	10	0.4	4	*
		F	124	0.3	109	0.3	4	*	7	0.2	3	*
C82-C85	Non-Hodgkin's lymphoma	M	2,424	7.0	2,062	7.1	107	5.7	194	6.7	61	7.2
		F	2,178	4.6	1,801	4.5	110	4.2	207	5.0	60	5.0
C90	Multiple myeloma	M	1,345	3.7	1,121	3.7	81	4.2	110	3.7	33	3.8
		F	1,239	2.5	1,031	2.5	72	2.8	109	2.4	27	2.0
C91-C95	Leukaemia	M	2,341	6.7	1,966	6.7	130	6.9	190	6.6	51	6.1
		F	1,880	4.0	1,589	4.0	91	3.7	160	4.1	40	3.3

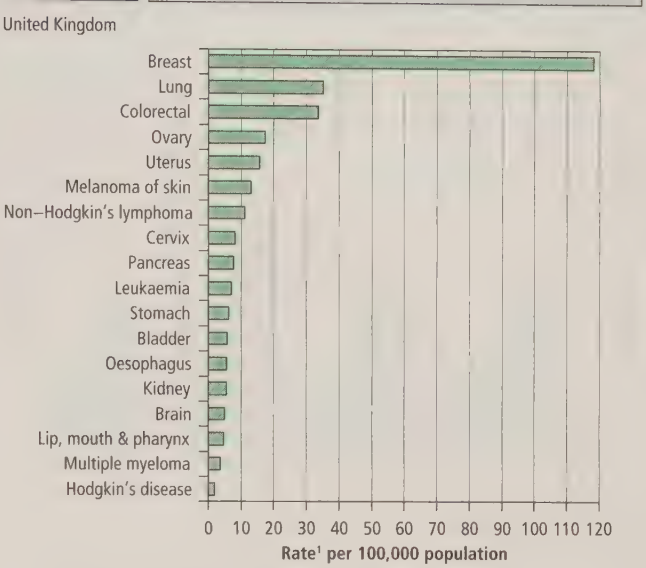
1 Using the European standard population
2 All numbers and rates in this table are calculated as three-year averages
3 Figures exclude non-melanoma skin cancer (ICD-10 C44)
* Directly age-standardised rates were considered unreliable and were not calculated when there were fewer than 20 deaths over three years in an area

Figure 1a Major cancers: age-standardised[1] incidence, males, 2002–04[2]



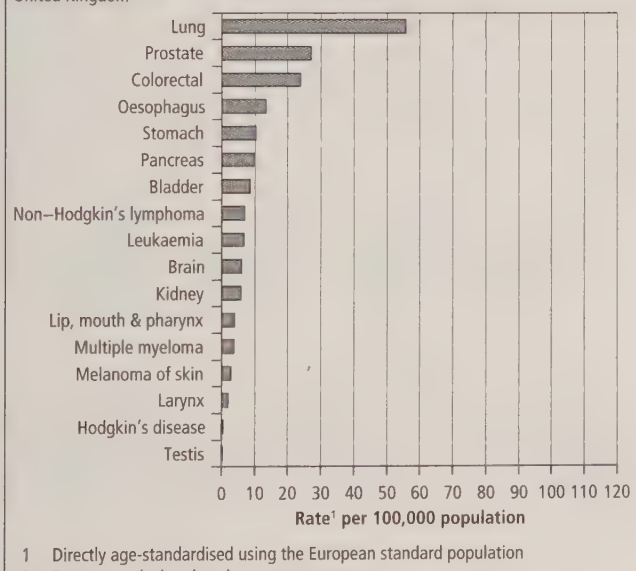
1 Directly age-standardised using the European standard population
2 Rates are calculated as three-year averages

Figure 1b Major cancers: age-standardised[1] incidence, females, 2002–04[2]



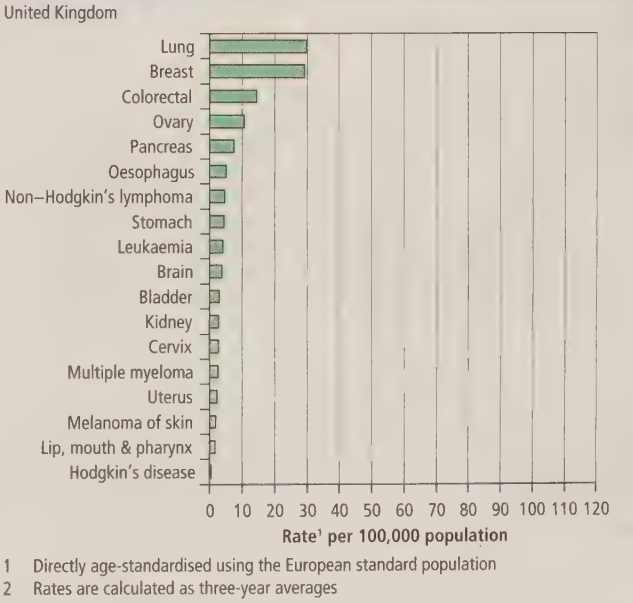
1 Directly age-standardised using the European standard population
2 Rates are calculated as three-year averages

Figure 2a Major cancers: age-standardised[1] mortality, males, 2002–04[2]



1 Directly age-standardised using the European standard population
2 Rates are calculated as three-year averages

Figure 2b Major cancers: age-standardised[1] mortality, females, 2002–04[2]



1 Directly age-standardised using the European standard population
2 Rates are calculated as three-year averages

Wales had the highest incidence rate for male cancers in the UK. The incidence of prostate cancer was 13 per cent higher in Wales than the UK as a whole, though mortality from prostate cancer was only 2.5 per cent higher. In both males and females, the incidence of bladder cancer was around 70 per cent higher than the rate for the UK, but mortality was not higher than average. This is because certain types of bladder cancer which are classified as benign elsewhere are registered as malignant in Wales. (See Technical Note 5)

In Scotland, the overall mortality rates for both sexes were around 15 per cent higher than those for the UK as a whole, and the overall incidence rates were around 10 per cent higher. The incidence of lung cancer in males was more than 35 per cent higher than in the UK as a whole, and 50 per cent higher in females. The incidence of other smoking-related cancers – oesophagus, lip, mouth and pharynx, and larynx – was also higher in Scotland than the other countries of the UK. The mortality rate for lung cancer was more than 45 per cent higher for females and 35 per cent higher for males. In males it was three times the mortality rate for prostate cancer and in females it was 45 per cent higher than the mortality rate for breast cancer. Female mortality from cancer of the kidney was more than 25 per cent higher in Scotland than in the UK as a whole.

In Northern Ireland, overall incidence and mortality rates were close to those for the UK. The rates for colorectal cancer were higher than the UK average: incidence was 11 per cent higher in males and 16 per cent higher in females while mortality was 14 per cent higher in males and

Figure 3a Lung cancer: incidence[1] by sex, country, 2002–04[2]

1 Rates directly age-standardised using the European standard population
2 Rates are calculated as three-year averages

Figure 3b Lung cancer: mortality[1] by sex, country, 2002–04[2]

1 Rates directly age-standardised using the European standard population
2 Rates are calculated as three-year averages

Figure 4a Colorectal cancer: incidence[1] by sex, country, 2002–04[2]

1 Rates directly age-standardised using the European standard population
2 Rates are calculated as three-year averages

Figure 4b Colorectal cancer: mortality[1] by sex, country, 2002–04[2]

1 Rates directly age-standardised using the European standard population
2 Rates are calculated as three-year averages

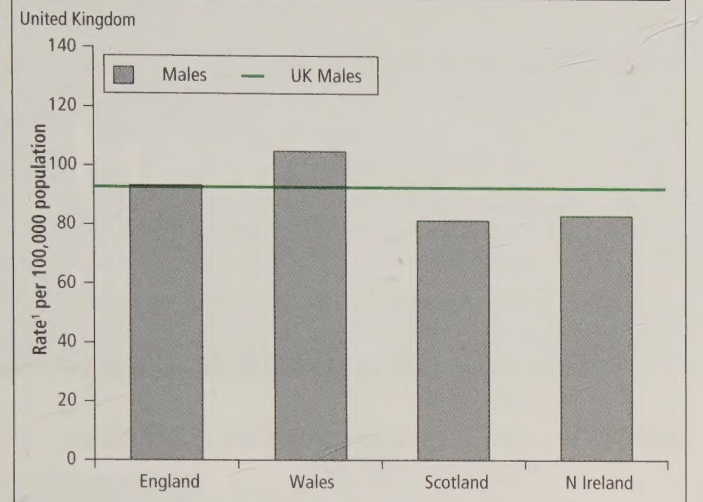
Figure 5a Breast cancer: incidence[1] by country, 2002–04[2]

1 Rates directly age-standardised using the European standard population
2 Rates are calculated as three-year averages

Figure 5b Breast cancer: mortality[1] by country, 2002–04[2]

1 Rates directly age-standardised using the European standard population
2 Rates are calculated as three-year averages

Figure 6a Prostate cancer: incidence[1] by country, 2002–04[2]



1 Rates directly age-standardised using the European standard population
2 Rates are calculated as three-year averages

Figure 6b Prostate cancer: mortality[1] by country, 2002–04[2]

1 Rates directly age-standardised using the European standard population
2 Rates are calculated as three-year averages

12 per cent higher in females. The mortality rate for bladder cancer was 25 per cent lower in males than the rate for the UK as a whole, and 40 per cent lower in females. The incidence and mortality rates for breast cancer were the lowest in the UK.

Acknowledgements

These analyses have been produced with the assistance of the Welsh Cancer Intelligence and Surveillance Unit, the Scottish Cancer Registry and the Northern Ireland Cancer Registry. The National Cancer Intelligence Centre (NCIC) at the Office for National Statistics gratefully acknowledges their assistance. The NCIC also acknowledges the work of the regional cancer registries in England, and their close cooperation with the national registry.

Box one

Cancer Registries in the United Kingdom

Scottish Cancer Registry
Northern Ireland Cancer Registry
Welsh Cancer Intelligence and Surveillance Unit

Regional Registries in England:
Northern and Yorkshire Cancer Registry
Trent Cancer Registry
Eastern Cancer Registration and Information Centre
Thames Cancer Registry
Oxford Cancer Intelligence Unit
South West Cancer Intelligence Service
West Midlands Cancer Intelligence Unit
North West Cancer Intelligence Service

Technical notes

1. Incidence and mortality rates have been directly age-standardised, using the European standard population, to control for differences in the age structure of the population between countries, and over time, to allow unbiased comparisons between rates.

2. The Office for National Statistics has been advised, both by expert epidemiologists and by members of the Advisory Committee on Cancer Registration, that non-melanoma skin cancer (ICD-10 C44) is greatly under-registered. Registration varies widely depending on a registry's degree of access to out-patient records and general practitioners. Figures given in this report for 'all cancers' therefore exclude non-melanoma skin cancer.

3. The incidence figures in this analysis are those published at the time of the annual releases. The cancer registration systems are live databases. Therefore, the figures presented here may not reflect those on the live databases.

4. Numbers and rates presented in this report have been calculated as three-year averages to reduce the effects of random variation in small numbers over time.

5. See Cooper N and Cartwright R (2005) 'Bladder' in *Cancer Atlas of the United Kingdom and Ireland 1991–2000*: Studies on Medical and Population subjects no 68, Palgrave Macmillan: Basingstoke.

6. Trends in UK cancer incidence and mortality will be published in *Health Statistics Quarterly* in Autumn 2007, using the latest available figures from the live databases. Cancer incidence and mortality statistics for the UK for 2001–03 were published on 29 November 2005 and are available on the National Statistics website at www.statistics.gov.uk/statbase/Product.asp?vlnk=14209

7. Cancer incidence statistics for the UK for 1999, 1998–2000, 1999–2001 and 2000–02 are available in Table B in Cancer Statistics registrations (Series MB1) reports at www.statistics.gov.uk/StatBase/Product.asp?vlnk=8843

These data were released on the National Statistics website on 26 July 2007 and are available at www.statistics.gov.uk/statbase/Product.asp?vink=%2014209

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Health Statistics Quarterly 36

Publication November 2007

Planned articles:

- Cancer survival indicators by Cancer Network: a methodological perspective
- Social inequalities in adult male mortality by the National Statistics Socio-Economic Classification, England and Wales, 2001–03
- Cancer trends in the United Kingdom, and constituent countries, 1993–2004
- Trends in cancer incidence by derivation, England, 1990–2002

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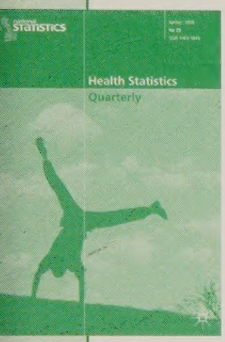

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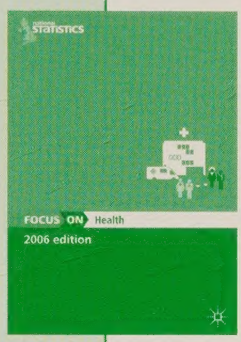

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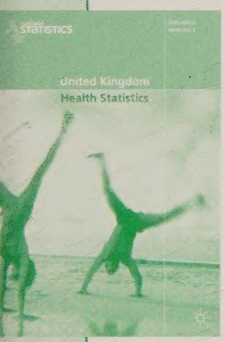

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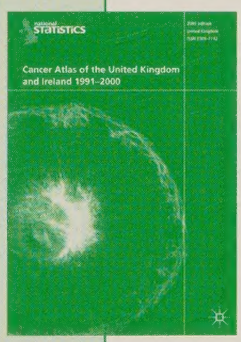

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